

November/December 2013

# Residential Architect

A Magazine of The American Institute of Architects

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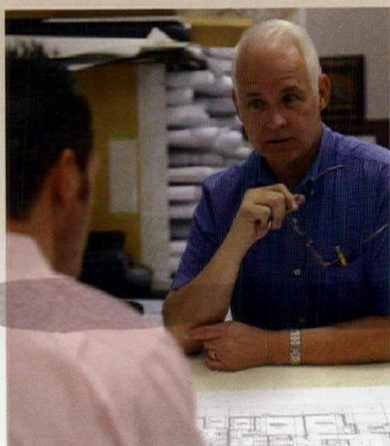
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A photograph of a modern kitchen interior. On the left, a large glass wall system with multiple panels and arched transoms looks out onto a lush green landscape with a pond. The kitchen features a large island with a white countertop and a built-in bench, with three black bar stools underneath. The background shows dark wood cabinetry and a mosaic tile backsplash. The text "Design that moves" is overlaid on the right side of the image.

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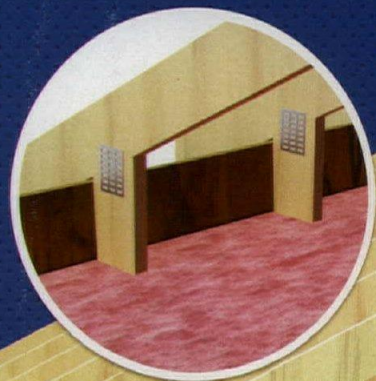




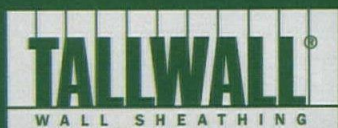
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### Wood House

Designed by principal Brad Lynch of Brininstool + Lynch, this modern house in Chicago's Bucktown neighborhood uses materials and detailing to recall the warehouses of the area's industrial past.

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**Edward Durell Stone on the Upper East Side** For just shy of \$10 million, you could have this NYC townhouse.

**Ikea on Your iPad** The furniture maker's new app puts their showroom in your hands.

**Architects' Dollhouses Go for Auction** These architect-designed dollhouses were auctioned off for charity.

**Architect's Choice** Williamson Chong Architects principal Donald Chong's favorite products and projects.

**Under the Table** We talk with Herman Miller about bringing back Isamu Noguchi's 1949 Rudder table.

**Plus** A kitchen and bath, new products, and more ...

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CRANtv and teaching clients what makes an architect special, titanium dioxide to the rescue, and residential architects can lead us to true sustainability.

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Want to break into new building types? Some residential architects have done so successfully. Here's how.

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Overland Partners | Architects in San Antonio.

**RA**

See more projects, more stories, more news, and more of everything you like in this issue at [residentialarchitect.com](http://residentialarchitect.com).

On the cover: Wood House by Brininstool + Lynch; photo by Christopher Barrett



# VistaLuxe Collection

Photo courtesy of Christopher Simmons Architect

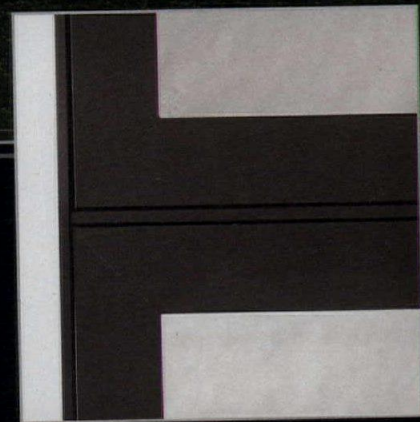


Collaboratively developed with architects for contemporary designs that utilize clean lines and multiple units to create large expanses of glass, the VistaLuxe™ Collection from Kolbe allows you to create an opening as unique as your project. An extruded aluminum exterior provides low-maintenance durability, while a wood interior proves modern design can be warm and organic.

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# UP FRONT



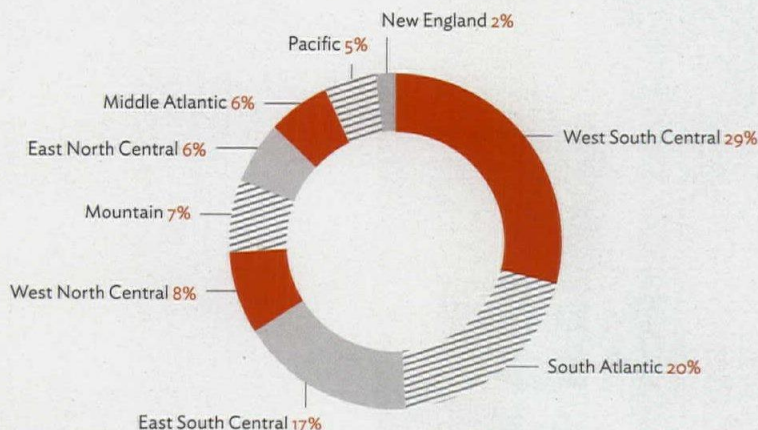
← When Edward Durell Stone renovated this Upper East Side townhouse in 1956, he drew inspiration from Frank Lloyd Wright for its signature element, the façade. Stone, who made the New York City building his home, replaced its existing forward face with floor-to-ceiling windows, then covered it with a decorative concrete grille. Although the building was landmarked in 1981, the renovation was controversial for its time and would be all but impossible under current laws. The house, which is listed for sale by Sotheby's at \$9.995 million, is unique—and unalterable. Its previous owner, Knoll CEO Andrew Cogan and his wife, Lori Finkel, secured an easement to guarantee that the street façade, whose pattern is echoed throughout the nearly 5,000-square-foot house, could never be changed. —KRISTON CAPPS



## UP FRONT

### The Prefabricated Housing Market:

Percentage Breakdown of Manufactured-Home Shipments, by U.S. Region  
Source: Global Industry Analysts



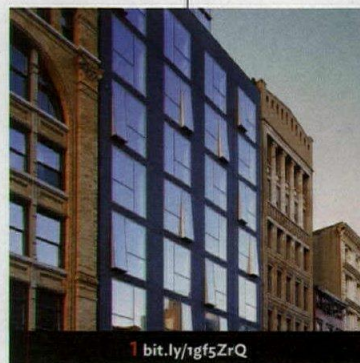
### Stay-at-Home Showroom

Ikea, the Swedish supplier of streamlined home furnishings, is letting consumers try on its products for style and size before purchasing them—sort of. The mobile app that accompanies the global brand's 2014 product catalog is fitted with augmented-reality technology, which adds a layer of digital information to a projection of a real space to create a realistic 3D display. Shoppers can use the app to scan pages of the print catalog and visually place selected furniture items into their rooms, to scale, using their phone's or tablet's camera. The goal is to help shoppers determine whether a certain dining set, wardrobe, or bed frame will fit the dimensions and aesthetics of a given space—factors that aren't as readily apparent in an online catalog or one of the stores' bustling displays. The app is free for iPhone and iPad as well as for Android devices. —HALLIE BUSTA

### Best in Show

These three reader-submitted Project Gallery entries demonstrate innovative articulated window openings.

- 1 48 Bond Street, Deborah Berke Partners
- 2 Flip House, Fougere Architecture
- 3 The Primary "Ultimate," Minimaxist





# Technology designed to make the great indoors even greater.

## Let's go back a few hundred years.

In the past, air circulated freely through gaps in walls, windows and doors. And while we've become better over the years at sealing interior environments, we've also sealed in everything, from aldehydes, to mold and mildew and even unpleasant odors.

## Why these problems are such a problem.

Used in producing plastics, synthetic resins, upholstery, carpet and pressed wood, aldehydes are compounds that gradually "off-gas",

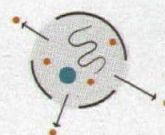
resulting in emissions. Mold and mildew can irritate skin, eyes and respiratory tracts and cause staining, rotting, and bacterial odors. And while odors from pets, cooking,

smoke and other sources may not pose health problems, they can make indoor spaces unpleasant.

## The science behind the technology.

It starts with odor eliminating technology that deconstructs carbon molecules, neutralizing and dissipating odors. Then, new formaldehyde reducing technology\* helps to transform airborne aldehydes into water molecules and harmless inert gas, reducing these VOCs from potential

sources like insulation, carpet, furniture and fabrics. And finally, antimicrobial agents inhibit the growth of mold and mildew on the paint film and related bacterial odors, addressing these issues before they can become a problem.



Special compounds deconstruct carbon molecules to dissipate odors.

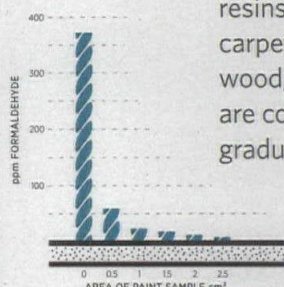
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Aldehydes are emitted from carpet and other products over time.<sup>†</sup>

And oh yeah, it's paint.



\*Formaldehyde Reducing Technology is currently available in flat and eggshell sheens. The length of time Harmony actively reduces odors and formaldehyde depends on the concentration, the frequency of exposure and the amount of painted surface area.

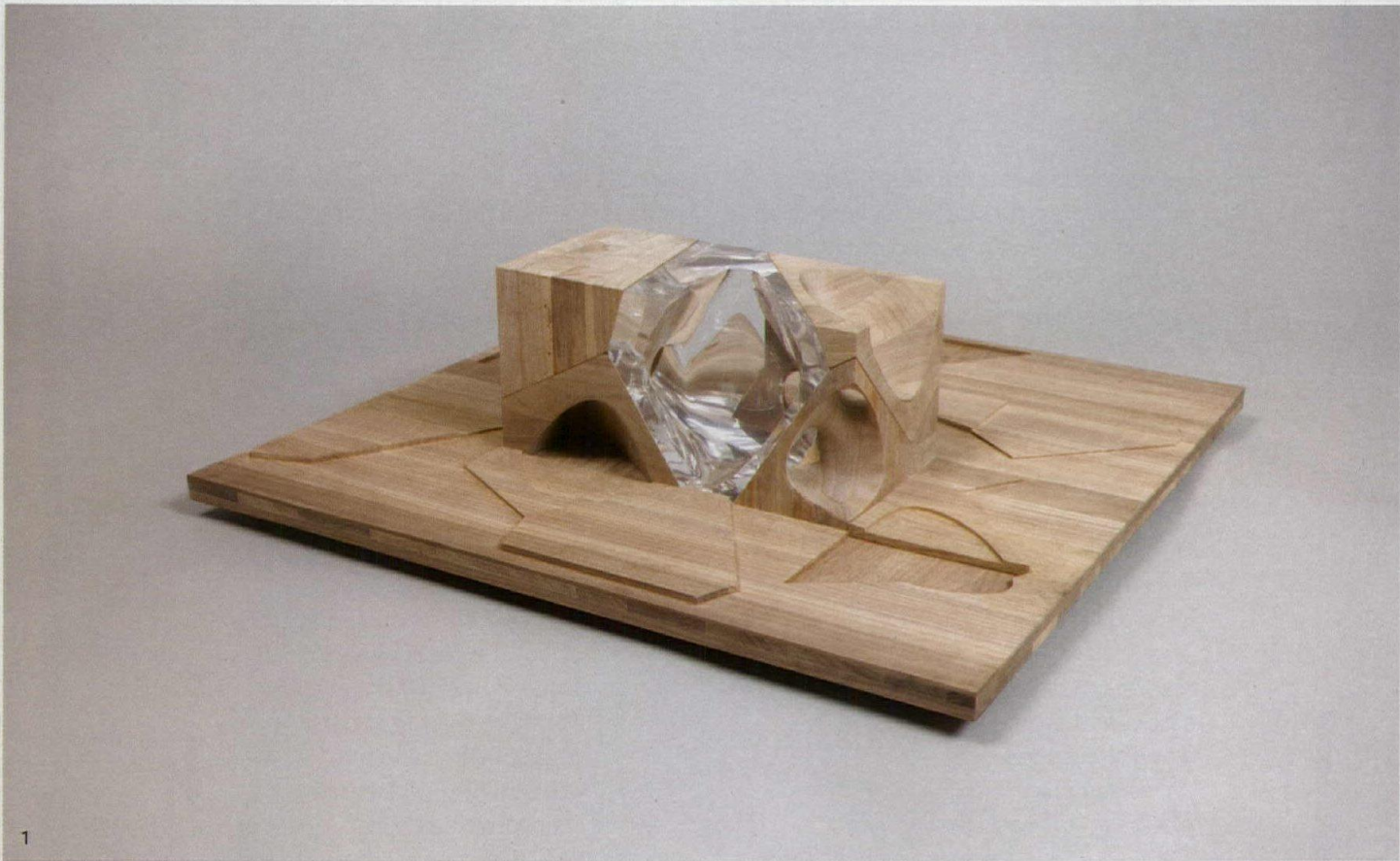
<sup>†</sup>Based on methods:

ISO 17226 Determination of formaldehyde content in leather by High Performance Liquid Chromatography  
ISO 16000-3 Determination of formaldehyde and other carbonyl compounds in indoor air and test chamber air

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UP FRONT



\$22,964

WINNING BID FOR  
ZAHA HADID'S DOLLHOUSE

## Architects' Dollhouses Go for Auction

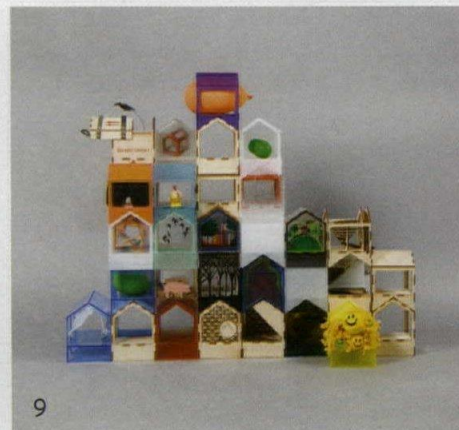
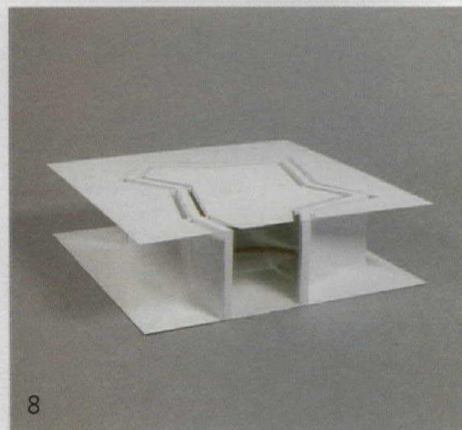
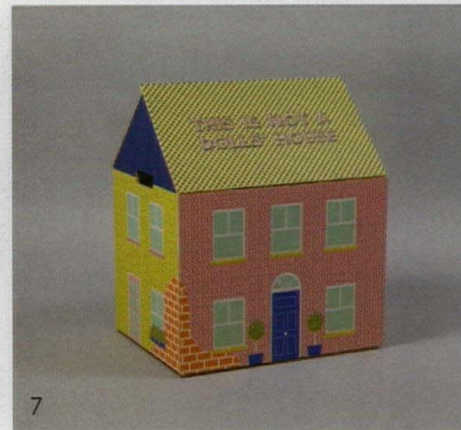
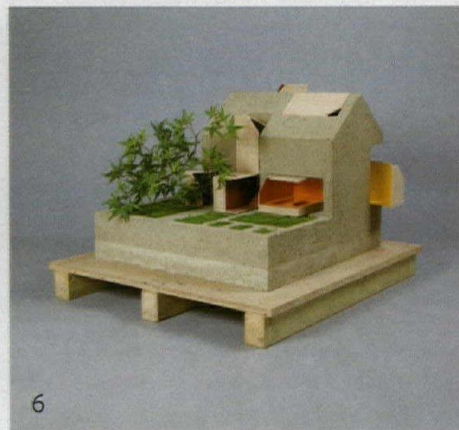
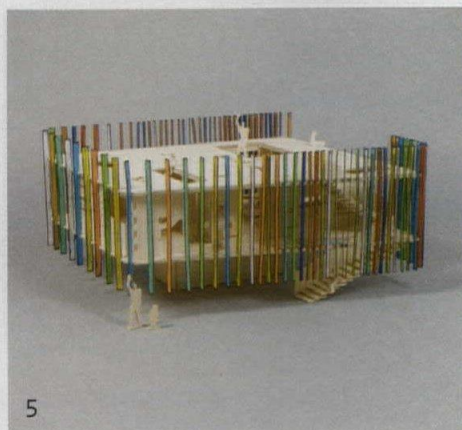
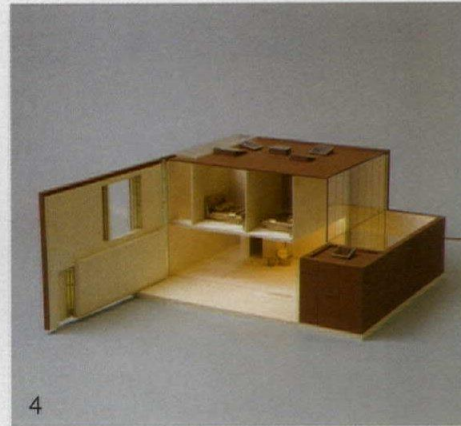
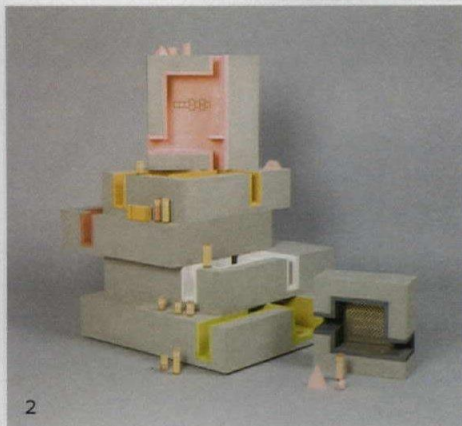
Last month, nearly two dozen houses designed by the likes of London-based firms Zaha Hadid Architects and Adjaye Associates were sold at auction. These houses were not slated to be lived in, however—they are designed for a site roughly 30 inches wide. Inspired by Edwin Lutyens's 1922 dollhouse for Queen Mary, the U.K.-based Cathedral Group development firm organized the dollhouse auction to benefit Kids, a London-based charity for disabled children.

The 20 participating firms designed dollhouses geared toward children with special needs. Duggan Morris Architects, for example, designed a house for an autistic child: It is divided into streamlined rooms meant to simplify visual stimulation.

As they were designed for a fundraiser, most of these high-ticket items won't wind up in any kid's hands. The house designed by Zaha Hadid Architects, for example, went for more than \$22,000—well outside the typical family's toy budget. Altogether, the sale garnered about \$145,000. At press time, three of the houses were destined for private homes, and another three were slated for offices.

Perhaps some of the dollhouses will wind up as art, alongside such works as Faith Bradford's 23-room mini house at the National Museum of American History in Washington, D.C., or Colleen Moore's 1930s Fairy Castle at Chicago's Museum of Science and Industry. As a record of today's design buzzwords, such as live-work spaces (Adjaye Associates' "Electra House") and temporary housing (Guy Hollaway Architects' "Jack in a Box"), they wouldn't be out of place in an archive. —SARA JOHNSON

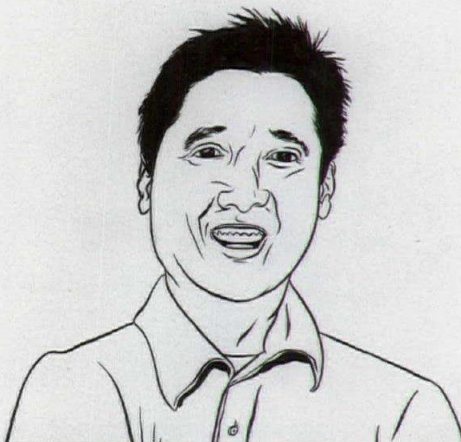




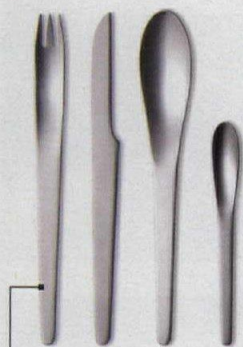
1 "This Must Be the Place" by Zaha Hadid Architects 2 "Multi-Story" by Duggan Morris Architects 3 "Mae-Mak House" by Mae 4 "Electra House" by Adjaye Associates 5 "House for a Deaf Child" by DRMM 6 "Inside Out" by Coffey Architects 7 "Jack in a Box" by Guy Hollaway Architects 8 "The Grimm's House" by James Ramsey Raad Studio 9 "Jigsaw House" by Make Architects 10 "Elvis's Tree House" by Amodels



UP FRONT



### Architect's Choice **Donald Chong**



**Cutlery.** When Chong helps clients select cutlery, he gravitates to collections by the late Danish designer Arne Jacobsen, such as his eponymous 1957 matte stainless steel flatware for Georg Jensen. "Pieces of the kitchen also become part of your home," he says.

Williamson Chong Architects founding partner Donald Chong has a long list of go-to products to share, but he can't help but first rave about his hometown of Toronto, where he still lives and works. Visitors looking for great architecture, he says, would be remiss not to include—in addition to Ludwig Mies van der Rohe's Toronto-Dominion Centre and Viljo Revell's city hall—the city's array of communities, the Algonquin Island community in the Toronto Islands, and Queen Street West. "There's a commitment to the public realm that you see," Chong says. Residents are aware that "what happens on your particular lot will have an impact across your neighborhood."

Not surprisingly, Chong gravitates to materials and products with which "we can conspire to design something that ultimately leads us to better cities." Wood is a favorite medium for its versatility and resiliency. "It weathers and patinas in a way that reminds us that materials and spaces should only appreciate," he says. His litmus test for good design is simple: "Can it last?" When specifying or designing a furniture piece, for instance, he'll mull over its construction: "If you can build it well, you can make it last." After all, in a pedestrian-friendly city such as Toronto, he says, "it's better to have a good table than a good car." —WANDA LAU

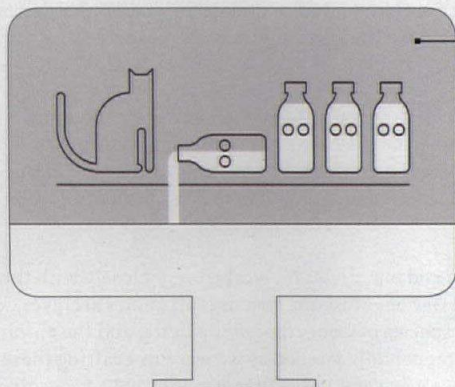
**Old Master.** The "consummate architect and designer," Peter Behrens employed Mies van der Rohe, Le Corbusier, and Walter Gropius, and he looked to industrial, graphic, and textile designs to develop "a new take on design that wasn't ornamentally driven or another derivative of what the ruling classes wanted," Chong says.







**Fenestration.** Wood windows can incorporate tempered glass technology, high-performance insulated glass units, and custom frames to “get the natural light, ventilation, and views that let us use otherwise tough proportions of narrow urban homes,” Chong says. Tradewood’s windows typically minimize sash dimensions, maximize views, and integrate the screen intelligently. “The material quality of wood is in fact the bonus,” he says.



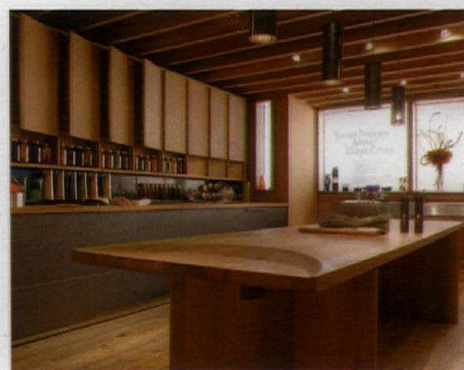
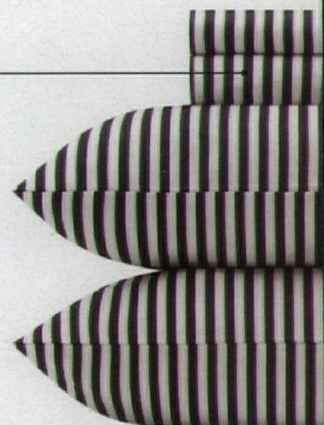
**Website.** Kitka, the blog for Mjölke—a Toronto gallery and purveyor of high-design furniture and handmade dinnerware with a Nordic and Japanese feel—serves as a source of inspiration as well as a catalog of products that are “good, relevant, worldly, but local, too,” Chong says.

#### Cladding. Masonry

“speaks to the brick culture of Toronto, which depended heavily on its clay deposits for its earliest buildings,” Chong says. Brick’s durability, thermal mass, and material connection to the earth “also work well with our contemporary interests,” he says. His favorite is Endicott’s face brick in dark ironspot.



**Bed Linens.** The “original midcentury modern textile company,” Marimekko is Williamson Chong Architects’ go-to source for the firm’s residential projects, Chong says. “We like to point to the provenance of a company or material that we’re specifying.”



Chong values wood’s ability to reinforce the heart of a home or neighborhood. **TOP** Williamson Chong Architects’ Bala Line House, in the Moore Park neighborhood of Toronto. **BOTTOM** “Small Fridges Make Good Cities,” the firm’s custom, reusable installation for the 2007 exhibition “Offspring: Inspired by Nature.”



UP FRONT

## Under the Table

Q+A with **Nicole Burns**  
and **Mark Schurman**  
at Herman Miller



Herman Miller's products team discusses the process of bringing Isamu Noguchi's 1949 Rudder Coffee Table out of the company's archive and into the marketplace.

The lack of a consistent set of drawings was just one of the challenges facing Herman Miller when the Zeeland, Mich.-based furniture maker decided to reissue the Rudder Coffee Table by designer and sculptor Isamu Noguchi. Part of the 1949 Rudder Series of tables and stools, the low table displays Noguchi's signature graceful, rounded wood-veneer surfaces and distinctive material combinations. We spoke with Nicole Burns, product manager for the Herman Miller Collection, and Mark Schurman, director of corporate communications, about revitalizing the iconic midcentury piece.

### Why this piece, and why now?

**Burns:** The Noguchi coffee table had been in production for quite some time and was incredibly popular. People had been asking for something else from the Noguchi product family. We do extensive research to find items that can translate to the market today as easily as they did in the 1940s. During that process, we came across the Rudder table and it seemed like a perfect addition.

### What is different about this model from the original?

**Burns:** We tried to be true to his original intention and materials. We worked very closely with the New York-based Isamu Noguchi Foundation and Garden Museum, that organization's archives, and our archives. The table stays very true to the species of wood, the color palette, and the chrome usage. We did make sure that we were very environmentally minded as we were re-crafting these components. The chrome manufacturing process is a lot safer today than it was in 1949, for example.

### What challenges did this design present?

**Burns:** We had a couple of original drawings, but there was a lot of variance in their designs. We were trying to figure out which one would be the best iteration to work from in order to get the rudder and the hairpin legs just the right shape and the very distinctive top shape that Noguchi is known for. We pulled a lot of archival pictures and pieces and tried to figure out what the dimensions were. Pulling information on a design that's more than 60 years old takes a lot of love and care to make sure that you're being true to the designers' intention while making it a valid product for today's market.

**Schurman:** In other instances, particularly for a piece that has been in continuous production—the Eames lounge chair and ottoman, for example—[it's easier to replicate] because the drawings exist and the production has been continuous, so there is less detective work involved in making a material change or adding a finish option.

### Changing gears, is the prevalence of knockoffs a barrier to determining whether you'll reintroduce a product?

**Schurman:** I would say the exact opposite would be true. If there are knockoffs of a Herman Miller design, I think that would give us a greater cause to want to explore that reintroduction. There's a lot of confusion in the marketplace [due to inaccuracies common to knockoffs]. Part of our challenge is to correct and clarify. —HALLIE BUSTA







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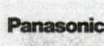
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## Case Study Kitchen

Tyrol Hills Modern, Minneapolis, Peterssen/Keller Architecture

- 1 Custom red birch cabinets with recessed aluminum pulls   2 BI-48SD 48-inch side-by-side, Sub-Zero  
3 48-inch Plane Island exhaust hood, Futuro Futuro   4 Tatami Field, New Ravenna Mosaics  
5 Custom 3/4-inch solid wood Brazilian cherry floor, 3-inch width

**RA** This kitchen was selected from Residential Architect's user-submitted Project Gallery.  
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## Case Study Bath

Strickland-Ferris Residence, Raleigh, N.C., Frank Harmon Architect

1 Custom red oak vanity, Robbins Bearly Custom Furniture 2 Conical Ball vessel sink and Stillness faucet, Kohler Co. 3 Lagos Azul limestone tub surround, sourced from Byrd Tile  
4 Bora wall sconce, LBL Lighting 5 Mirror, Diamond Glass and Mirror

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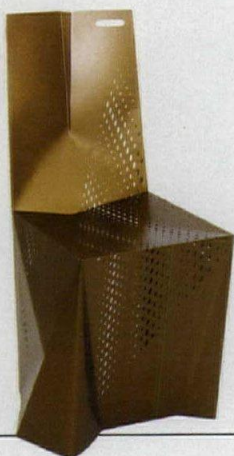


### UP FRONT



**Contemporary Cabinet.** The four-drawer facing on this credenza conceals a three-drawer unit. From the Shale collection by Minneapolis design studio Blu Dot, the 66.5"-long cabinet (shown) stands on four solid-wood legs that render the piece "cankle free," its maker says. Its two doors open to adjustable-height shelves. [bludot.com](http://bludot.com)

From product re-issues to product debuts, these wares hone a modern aesthetic.



**Sustainable Seat.** Molded for ergonomics from recycled metal, Sylki from designer Brooks Atwood's Brooklyn-based studio Pod Design also touts a humanitarian bent: Twenty percent of each sale will go to Hurricane Sandy relief efforts. The chair's indentations and laser-cut perforations distribute seating loads among a user's joints. And at 4 lbs., the chair weighs less than a (full) bottle of wine. [pod-design.com](http://pod-design.com)



**Classic Redux.** Hans J. Wegner is known for his iconic chairs, but the late Danish designer also crafted luminaires. Among his most prominent pieces is the Pendant. Designed in 1965 and in continual production by Carl Hansen & Søn ever since, the Pendant became available in the United States last year. The stainless steel frame doubles as a handle, allowing users to adjust the fixture's height. [carlhansen.com](http://carlhansen.com)



**Historical Upgrade.** Delftware's charm never gets old, particularly when designers continually rework its presentation. The 17th Century collection from tile designer Deborah Osburn for Tilevera swaps the traditional blue, white, yellow, and magenta hues with pink, gray, green, teal, and persimmon (shown) to "punch up elegant 400-year-old designs," Osburn says. Offered in six floral patterns. [tilevera.com](http://tilevera.com)



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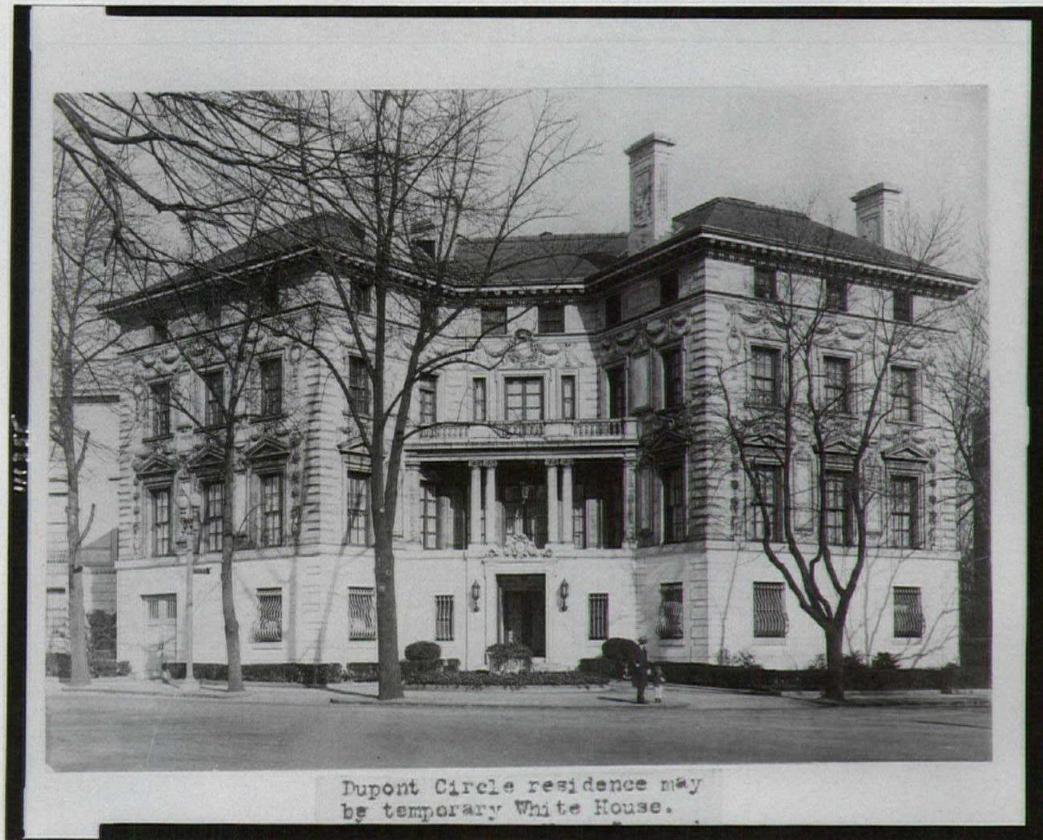
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UP FRONT



## For Sale Stanford White's Dupont Circle Mansion

Rarely does a house come on the market that justifies the listing “suitable for use as an embassy, foundation or association headquarters, social club or, once again, as a personal residence,” but the 36,470-square-foot Patterson Mansion on Washington, D.C.’s Dupont Circle certainly fits the bill. Designed by Stanford White of famed and acclaimed New York architecture firm McKim, Mead & White, the four-story white-marble-and-brick manse has held the spot for most expensive home on the market in the District since it went on the market in March of this year. It can be your new home (or embassy) for a mere \$26 million.

Designed for Robert Patterson, then-editor of *The Chicago Tribune*, and his wife, Elinor Medill Patterson—who were trying to establish

themselves as part of turn-of-the-century Washington’s elite social scene—the mansion was completed in 1903, a year after White’s firm finished another, more high-profile, job in town: a renovation of the White House. The house has been through a number of owners—it even served as a temporary White House of sorts when renovations displaced President Calvin Coolidge from his 1600 Pennsylvania Avenue living quarters during the summer of 1927—and it has spent the last 60-odd years as the home of the private Washington Club.

But, if a planned deal goes through, it may be possible to stay the night in the storied Beaux-Arts pile for a lot less than the eight-figure asking price: Atlanta-based French Quarter Hospitality has reportedly put in a bid for the

property to convert the historic structure into a boutique hotel. The development company has hired local architecture firm Studio3877 to design a renovation and addition to the property that would accommodate a restaurant, lounge, and bar area on the first two floors of the main house and up to 45 guest rooms, including those housed in a proposed addition.

Even though the mansion has been through a number of renovations through the years—both before and after receiving status as a D.C. Historic Site in 1964, and after earning a place on the National Register of Historic Places in 1972—the notion of an addition on the dense site had many in the preservation community concerned.

Yet a ruling by D.C.’s Historic Preservation Review Board that was made public in early





↑ These historic photos from the Library of Congress show the house as originally designed by Stanford White—from the Beaux-Arts exterior (opposite) to the sitting and reception rooms (above).

November may ensure that the deal goes through. The commission ruled that the original four-story structure was covered under the protected status, but also found that a 1956 annex built to house a banquet hall and auditorium for the Washington Club on the 1/3-acre site may be removed to make way for a new, slender six-story addition that has been proposed to house the majority of the hotel guest rooms. In its ruling, the board found that the annex did not contribute to the historic character of the building.

While the board's decision would seem to grant the go-ahead for the conversion of the single-family home turned private club into D.C.'s newest boutique hotel, at press time, the house remains on the market. —KATIE GERFEN

THE MANSION WAS COMPLETED IN 1903, A YEAR AFTER WHITE'S FIRM FINISHED ANOTHER, MORE HIGH-PROFILE, JOB IN TOWN: A RENOVATION OF THE WHITE HOUSE.

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# The Design Advantages of Engineered Polymer Roofing



Engineered polymer roofing can offer both form and function.

By Kathy Price-Robinson

For architects, the choice between engineered and natural roofing materials illustrates the classic conflict between form and function.

On one hand, natural slate and shake are attractive design choices for high-end projects.

On the other hand, they can be trouble-prone products—hard on the planet, hard on the wallet and hard to work with. Maintenance issues can be expensive.

That's why synthetic engineered roofing materials, available in the market for more than a decade, present a cost-effective, viable alternative to traditional slate and shake roofing systems.

These synthetic roofing materials were developed in response to the:

- Continued popularity of the historic look of natural slate and wood shake
- Dwindling supply of non-renewable or slow-renewable natural roofing materials

The result is a product that has proven to be durable, lightweight and environmentally responsible.

The purpose of this article is to demonstrate the design advantages of using polymer roofing solutions in place of natural materials. We'll begin by examining the features of synthetic roofing materials. Then, we'll discuss the design and architectural benefits of polymer roofing materials and compare them with other roofing materials.

Finally, we'll explore the testing and documentation on why engineered polymer roofing

## LEARNING OBJECTIVES

At the end of this program, participants will be able to:

1. List the green features of engineered polymer synthetic roofing materials
2. Discuss the design and architectural benefits of specifying a polymer roofing solution including how these products can contribute to LEED® point certification
3. Compare the advantages and disadvantages of traditional roofing materials versus polymer tile products
4. Explain the durability and life cycle of synthetic roofing materials including the various testing methods and approvals related to roofing materials.

## CONTINUING EDUCATION

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materials serve an architect's need to specify materials that serve form and function.

## THE COMPOSITION OF SYNTHETICS



Polymer roofing made from virgin-engineered materials, rather than recycled materials, tend to have more consistent performance and color stability.



Although each manufacturer has its own formula, synthetics are typically comprised of a variety of engineered polymers, rubbers and natural or cement components with fiber or polymer bonds. All synthetic roofing products utilize UV and color stabilizers.

Some manufacturers use recycled materials, and some use only virgin-engineered materials. Due to many variables, the end product using recycled materials can vary in performance, aesthetics and color stability.

This course will focus on synthetics made from one of the most stable polymers available: Virgin-engineered polyethylene (polymer) resin.

#### ENGINEERED POLYETHYLENE RESIN



The resins are blended with fire retardants to protect the roof against fire damage and UV stabilizers to ensure color fastness.

An engineered polyethylene resin system has very little thermal expansion, which is critical in a roofing material.

This type of polymer also allows the material to remain pliable in all temperatures. As a result, it will not become brittle and break when installed at low temperatures, or buckle and deform at high temperatures. Many other types of synthetics have minimum temperature requirements, as their material may break or crack in colder weather during nailing, or when walked upon.

As we'll see later in the article, testing indicates that synthetics made from these types of polymers will retain tensile strength and will not crack and warp over time.

Polymer tiles made from 100 percent virgin resins leads to a higher level of quality control in the raw materials and ensure consistency of the product across manufacturing runs. Since no product in the blend comes from recycled material, no color "blotching" from batch to batch occurs, a common complaint among installers.



Using advanced injection-molding techniques, high-quality polymer roofing materials are manufactured using virgin-engineered polymers consisting of UV inhibitors, color stabilizers and fire retardants.

For additional UV protection, many manufacturers offer an optional Kynar® coating for a satin finish, which creates deeper, richer colors along with a gritty texture for added traction.

Once molded, the tiles are pre-blended to the color blend specified. This means reduced time and cost to hand-sort at the job-site.

#### Features and Benefits

In addition to longevity, other features include:

- Green attributes
- Durability
- Class A fire rated (when installed with specified underlayments)
- Impact resistant
- Natural look and aesthetics
- Lightweight
- Easy to install and maintain
- Cost-effective

**Color:** With multiple color, width and thickness options, most manufacturers offer design options that look indigenous to almost any area or architectural style. The color blends emulate the full range of natural slate colors with a non-repeating appearance.

#### CASE STUDY

##### Polymer Slate Tiles for Historical Renovation



Mount St. Mary's College before its transformation.



After the renovation, with a new polymer slate roof. The polymer slate roof was chosen for its aesthetics and low maintenance requirements.

This case study focuses on the use of polymer slate tiles for use on historical renovation projects. Mount St. Mary College, located in Newburgh, New York, had a unique problem. A campus building needed a new roof, but not just any roof. It had to provide top-rate durability, weather tightness and reflect the 140-year old Victorian style building's historical significance.

The old, red asbestos shingle roof had faded to pink with gray streaks. It detracted from the architectural beauty of the building.

A polymer slate roofing material was selected instead of natural slate because the college wanted to minimize roof maintenance. College officials liked the authentic look of polymer slate as well as the 50-year warranty and competitive price.

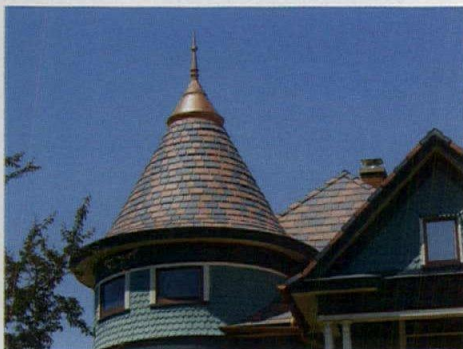
Before beginning work, the college's Director of Facilities made a presentation to the City of Newburgh Architectural Review Committee to get their approval for the new roof. The committee is responsible for making sure the aesthetics of the products used fit the architectural and the historic flavor of the community. The committee reviewed different upgrades to some of the upscale homes in the area, including historic ones. Ultimately, synthetic slate roofing material was approved.



The proper mixing or blending of various styles and colors is critical to obtaining a natural look without patterns or color "blotching." Some manufacturers provide factory-collated color blends. Factory-collated bundles, versus on-site collating, assures that the roof looks as expected and eliminates the need for costly hand-sorting at the job site.

There are also custom colors and color blends available to satisfy a wide range of design requirements.

### Green Features



It could be said that the greenest roof is the one that already exists. Therefore, a roof with a long lifespan and low maintenance needs is inherently green.

Polymer resin tiles offer several green benefits:

- Products are made of engineered polyethylene resin,  $\text{CaCO}_3$ , stabilizers and are inorganic
- Pigments are generally safe for the environment; and some meet the standards of California's Proposition 65, the Safe Drinking Water and Toxic Enforcement Act of 1996
- Some polymer-based tiles are 100 percent recyclable (check with the manufacturer)
- One hundred percent of the manufacturing waste can be recycled back into the product
- It takes much less oil to manufacture these types of materials than it does asphalt shingles (the crude oil that some manufacturers use is a by-product from the refinement of gasoline)
- Polymer shake tiles save trees
- Injection-molded polymer tiles eliminate the need to quarry natural slate, saving labor, energy and natural resources

- Less jobsite waste (about 15 percent of natural slate tiles crack or break during installation)
- Polymer products are lightweight and reduce the financial and environmental cost of transportation
- A roof that lasts only 15 to 20 years can cause two or three times more landfill problems than a synthetic slate roof that lasts up to three times longer
- Polymer products can contribute to LEED® point certification for heat island effect, water efficiency, construction waste management, resources re-use and regional materials
- Polymer products may be available in colors approved by the Cool Roof

### CASE STUDY

#### Synthetic Slate Helps a Home Achieve LEED Certification



An engineered polymer slate roof was chosen for a home in Hillsdale, N.J., rated LEED-H Platinum. The polymer slates were chosen because they are 100 percent recyclable, have a 50-year warranty and are manufactured in the U.S. The tiles offered a smaller carbon footprint by reducing jobsite waste and weigh one-third as much as real slate, so transportation costs are reduced.

Polymer slates also help harvest clean rainwater. The roof tiles also contributed to the LEED Certification Process (LEED for New Construction—LEED-NC Standard 2.2) by:

WE 1.1–1.2—Water Efficient Landscaping. Some polymer tiles work well with captured rain systems, preserving potable water. (1–2 points)

MR 2.1–2.2—Construction Waste Management. Polymer tiles divert 50%–75% of roofing materials from landfills. (1–2 points)

MR 3.1–3.2—Resource Re-Use. When carefully removed, 5% to 10% of polymer tiles can be re-used. (1–2 points)

MR 5.1–5.2—Regional Materials. If the polymer tile is manufactured within 500 miles of the project, there is significant transportation savings. (1–2 points)

Rating Council and meet requirements for the ENERGY STAR® program inclusion (Cool Roof-rated colors reflect sunlight and heat)

### Durability

Polymer roofs are warranted for up to 50 years by the manufacturer. Unlike some synthetics that change over time, leading to product failure, engineered polymer products are fade resistant and do not lose their tensile strength.

Freeze/thaw problems are generally associated with material that absorbs water—the material freezes and then expands, causing cracking and delaminating. Polymer tiles do not absorb water, so there is no freezing expansion.

### Impact

Hail-resistant polymer tiles have a Class 4 impact resistance (UL 2218), the highest rating possible for a roofing material. This can qualify homeowners for discounts on homeowner's insurance.

### Wind

Installed at any exposure, the material is rated up to 110 mph according to ASTM D3161. Shake tile, when installed at a 9" exposure and slate, when installed at a 6" exposure, are Miami-Dade approved for wind speeds up to 150 mph. This meets or exceeds code in most areas.

### Fire Rated

While the look of natural wood shake is popular, many neighborhoods and cities are moving to ban them due to the associated fire hazards. In areas prone to fires, manufactured roof tile enhances home safety and security.

As an alternative, polymer shake and slate roof tiles, when installed with a specialty underlayment, are ASTM E 108 certified with Class A Fire Rating (more likely to be approved by local jurisdictions).

### Aesthetics

The molds used for these types of roofing products are designed to offer an authentic surface texture. Some manufacturers offer a variety of polymer slate products in regards to tile widths, exposures, profiles and colors.



A ½" thick tile at the butt end replicates the look of premium high-end slate products.

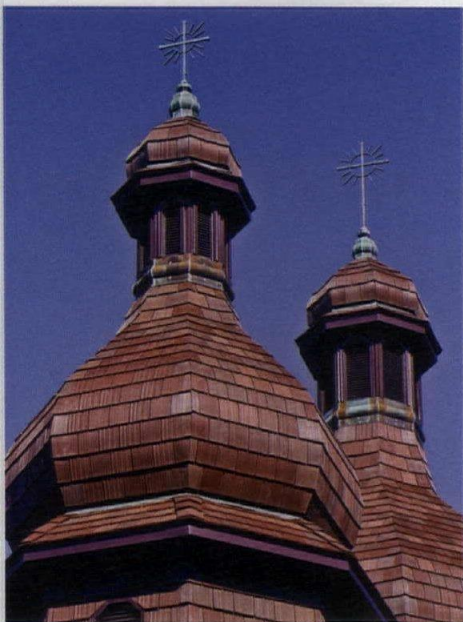
Polymer shake is typically manufactured with the same options, though thickness can range from 5/8" to 1", depending on the product line.

Though typically packaged in standard color blends, polymer tiles can also come in custom color blends for nearly any specification.

### Width Options

While a single-width tile is certainly popular, some polymer roof tile manufacturers offer a variety of widths to add visual interest and to accommodate the look of the region (or the designer's personal preference).

When product is ordered as a multi-width option, the widths are evenly distributed in the color blends to avoid clustering of same-sized tiles.



Flexibility in design: Engineered polymer tiles can conform to many design challenges, including minor roof curves.



This article continues on <http://go.hw.net/RA1113Course1>. Go online to read the rest of the article and complete the corresponding quiz for credit.

### QUIZ

- What are manufacturing benefits of polymer tiles made from 100% virgin resins rather than those from recycled materials?
  - Higher level of quality control
  - Consistency across manufacturing runs
  - No color blotching from batch to batch
  - None of the above
  - All of the above
- What percentage of polymer tile manufacturing waste can be recycled back into the product?
  - 100%
  - 70%
  - 50%
  - 30%
  - 10%
- What is the typical warranty duration for polymer slate and shake?
  - 20 years
  - 30 years
  - 40 years
  - 50 years
- A cool roof is measured by which two properties?
  - Solar reflectance
  - Tensile strength
  - Thermal emittance
  - Weight
- True or False: Polymer shake tile, when installed at 9" exposure, is Miami-Dade County approved?
  - True
  - False
- What is the routine maintenance schedule for polymer slate roofing?
  - Every year
  - Every 5 years
  - Every 10 years
  - Does not need routine maintenance
- Some polymer slates with 30 lb. felt underlayments are Class A Fire rated, according to ASTM E 108. To pass this test, the test flame must not burn through the roof deck in what period of time?
  - Within 10 minutes
  - Within 20 minutes
  - Within 60 minutes
  - Within 90 minutes
  - Within 120 minutes
- Accelerated Weathering testing (ASTM 4798) measures which performance(s)?
  - Color fade
  - Tensile strength
  - Curling/warping
  - Coating adhesion
  - None of the above
  - All of the above
- In a water absorption test (ASTM), polymer tile samples were submerged in water at 158° F for one week. How much was the absorption rate?
  - .018% of material weight
  - .18% of material weight
  - 1.8% of material weight
  - 18% of material weight
- True or False: Some polymer roof tiles rate Class 4 for impact resistance according to UL 2218 Impact Test.
  - True
  - False

### SPONSOR INFORMATION



DaVinci Roofscapes has manufactured award-winning synthetic slate and shake roofing since 1999. Polymer roofing tiles are virtually maintenance free and far more cost-effective than the natural product. DaVinci leads the industry in tile thickness, tile width variety and selection of subtle earth-toned colors. Company products have a 50-year limited warranty and are 100 percent recyclable. DaVinci makes its products in the United States and is a member of the National Association of Home Builders, the National Roofing Contractor Association, the Cool Roof Rating Council and the U.S. Green Building Council. For additional information call 1-800-328-4624 or visit [davinciroofscapes.com](http://davinciroofscapes.com).



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PHOTO: VISKO HATFIELD

## AIAVOICES

DIRECT TO VIDEO | CRANTV AND THE CLIENT CONNECTION

David Andreozzi, AIA, is a Rhode Island-based architect and charter member of the AIA Custom Residential Architects Network (CRAN). This year Andreozzi launched a video series, CRANTv, with Doug Patt, AIA, author of *How to Architect* (The MIT Press, 2012), which introduces potential clients to the benefits of working with an architect. The video series also underscores the architect's intrinsic value in a media-friendly way. "What people need to understand is what makes architects special," Andreozzi says.

**IN THE FEW YEARS BEFORE WORKING WITH CRAN, I REALIZED** the importance of viral videos in terms of getting the attention of clients. Then, as an active member of CRAN, we chose Doug Patt to speak at our annual CRAN Symposium on his various projects, including the viral videos series based on his 2012 book *How to Architect*, which focused on teaching young students or non-architects about entering the field of architecture. At that point we opened a dialogue about a possible collaboration. Initially, I thought CRANTv might be a 10-minute interview with a provocative architect. But then I thought that the message of "Who is an architect?" seemed to be the bigger priority.

What I continually tell people is that we are in a predicament right now. We tend to celebrate famous architects and buildings, but what we need to celebrate is the design process. Clients don't need the Corbu glasses and fancy imported fountain pens we all

proudly adorn. Clients need someone who is good, who will protect them, and who—most importantly—has a resonant process.

One of the things that I've found through the years is that residential clients don't know a lot about architecture. Commercial clients know more—they work with architects all the time. But, residential clients need a little help in understanding what an architect's training entails and why that training empowers architects to deliver exceptional results.

To that end, Doug and I are working on about 12 videos—covering all aspects of working with architects. What is green? What are contracts? What's the timeline? We're hoping that once these videos go up, other architects will link to them on their websites. The links are quick references that are easily disseminated.

I started out in Pawtucket, R.I., in a six-story building, renting space from a friend who had an architectural practice, and I grew up about 15 miles away in Barrington, R.I., where I practice now—both towns on either side of Providence. The Providence metro area is located between two major design hubs in Boston and New York, where there's a great aptitude for design.

But architects need a broader audience. Look at how cooking shows have proliferated over the last five years alone—and food culture has become popular culture. People understand blanching versus broiling now. Why can't architecture do that?

—As told to William Richards **AIA**



# AIAFUTURE

THE WHITE STUFF

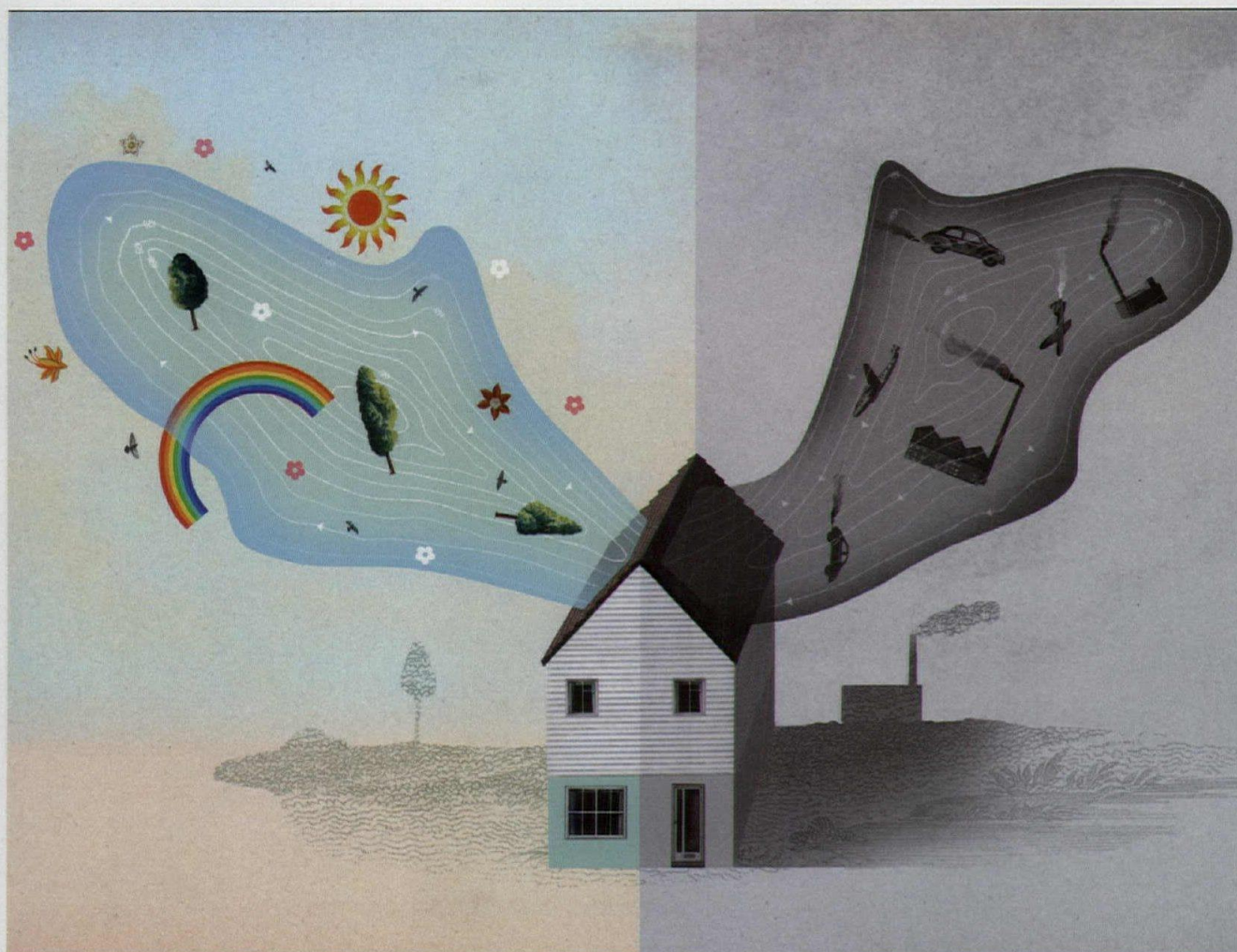


ILLUSTRATION: BRETT RYDER

## Can titanium dioxide save us all?

**IT'S A DESIGNER'S DILEMMA: THE COLOR WHITE SCREAMS** sleek, contemporary design, but keeping it clean—especially for buildings located in bustling cities—can be a costly and trying chore.

Richard Meier, FAIA, has faced that challenge in many of his buildings including the 2006 Jubilee Church project, built in Rome to celebrate the 2,000th anniversary of Christianity. In an attempt to create a coating to keep Meier's stark white forms clean with little maintenance, Italcementi Group, the project's lead technical adviser, turned to titanium dioxide—a white pigment often used in products such as toothpaste and sunscreen. Titanium dioxide also has significant photocatalytic properties. The coating works, in essence, with sunlight to set off a chemical reaction that accelerates the natural decomposition of organic matter, allowing the building to slough off environmental staining.

The coating did its job, but in the process Italcementi Group learned just how capable titanium dioxide itself was to clean the air around it—by “eating” nitrogen oxides, the main offender found in air pollution caused by burning fossil fuels.

The discovery is fortuitous, as air quality remains a major concern in the United States. In its “State of the Air 2013” report, the American Lung Association found that, despite an overall uptick in the quality of the nation's air, 42 percent of the population lives where pollution levels are too often dangerous to breathe.

Titanium dioxide continues to pop up in a variety of building materials as scientists and manufacturers look to chip away at air pollution in the built environment. In 2011, Alcoa introduced EcoClean, a titanium dioxide coating that can be applied to the company's aluminum architectural panels. And the honeycomb exterior of Mexico City's Torre



de Especialidades hospital, featuring a German product called Prosolve370e, handles the smog of an estimated 1,000 cars per day—all while looking good.

#### TiO<sub>2</sub> and You

Common sense dictates that it's wise to avoid creating the pollutant in the first place, but research is showing that applying titanium dioxide coatings to paving surfaces could help curb smog near its point of origin.

Earlier this year, researchers at the Netherlands' Eindhoven University of Technology laid a city-block's-worth of pavers that were coated with titanium dioxide. And in 2010 Marwa Hassan, an assistant professor in the Louisiana State University's Department of Construction Management, installed the United States' first photocatalytic asphalt and concrete pavements on that university's campus.

### Applying titanium dioxide coatings to paving surfaces could help curb smog near its point of origin.

Both sets of researchers saw significant reduction in nitrogen oxides. At Eindhoven, there was a 19 percent reduction each day during the year-long study. Hassan's laboratory findings, published in the American Society of Civil Engineers' *Journal of Materials in Civil Engineering*, saw reductions of 31 to 55 percent. In the U.S., 12.5 billion square feet of asphalt shingles are produced every year, and four out of five homes are covered with them, according to the Asphalt Roofing Manufacturers Association. Could titanium dioxide turn the ubiquitous asphalt roofing of the average American home into a passive pollution scrubber?

Adem Chich, executive director for asphaltic low slope product development for New Jersey-based commercial and residential roofing manufacturer GAF, thinks it might be possible.

That is, of course, if it can be employed without significant threat to the bottom line.

"This is a technology that has been around for a while and can be deployed in several forms. Companies in Europe, Japan, and the United States are marketing [roofing] membranes with granules that are coated with anatase titanium dioxide, which absorbs the ultraviolet component of sunlight, acts as a catalyst to form hydroxyl radicals, which then oxidize and destroy most volatile organic compounds and nitrous oxide pollutants," Chich says.

Siplast claims that 500 squares of its Eco-Activ membrane will consume the nitrogen oxide emissions released by 23 passenger cars or light trucks driven 12,000 miles each. In addition, Siplast says the titanium dioxide continues to work through the life of the roof membrane.

"There are still questions as to how cost-effective this approach is," Chich continues. "There are, however, meteorological simulations going on at national laboratories to model pollutant generation and transport, as well as how photocatalysis can be deployed more effectively. It's potentially a great marketing feature, especially if the incremental cost becomes small." —Dominic Mercier **AIA**

# AIAPERSPECTIVE

BEYOND BRICKS AND MORTAR



PHOTO: WILLIAM STEWART

**WHEN I FIRST MOVED TO TAMPA, 32 YEARS AGO, THE DRIVE** south along Interstate 75 across the Florida state line was largely through orange groves, farmland, and endless swaths of oak and palmetto. Interchanges were relatively empty except for the occasional gas station and fast-food stop.

Today, a drive down I-75 is a jumble of commercial development at most off-ramps. Car-oriented services are on all sides, with acres of single-family residential developments nearby, many marketed with the words "Cypress," "Lagoon," and, of course, "Palmetto." Leisure and the good life have been the selling points. Lately, however, I've noticed a new message: The good life is starting to go green. There was a time when a subtropical location was enough for most buyers; now words about energy efficiency and sustainable design are slipping in. The more aggressive developers are even pursuing LEED certification. Admirable as that seems, I have to wonder about the claims in the absence of any truly comprehensive cost-benefit analysis.

In theory, at least, what happens between a roof and four walls can be designed to consume no energy. Yet, if you have to take a ride in a car to go to work, eat at a restaurant, or even pick up a quart of milk, how does that support a low-carbon or carbon-neutral lifestyle?

Related to this is the question of land use. Our nation's older settlements were sited near productive agricultural economies. New Jersey, Georgia, and, yes, central Florida come to mind. That's changed. In statistics compiled by the National Resources Inventory between 2002 and 2007, just over 4 million acres of agricultural land were developed. So nowadays, those fresh raspberries in your local grocery store were probably flown in from across the country or even from another country. The problem with all of this isn't growth; it's a failure of holistic thinking.

But those whose work is in residential design are uniquely positioned to make a positive difference. After all, our homes are where our values as a society are shaped and where our sustainable ethics take root. True sustainability is more than energy-efficient add-ons or the checking of boxes. True sustainability must factor in land use and transportation as well as health, productivity, safety, resilience, and, yes, energy. If we can do this, we'll be leaders not only in providing quality shelter, we'll also be transforming this nation's cultural lifestyle. **AIA**

Mickey Jacob, FAIA, 2013 President





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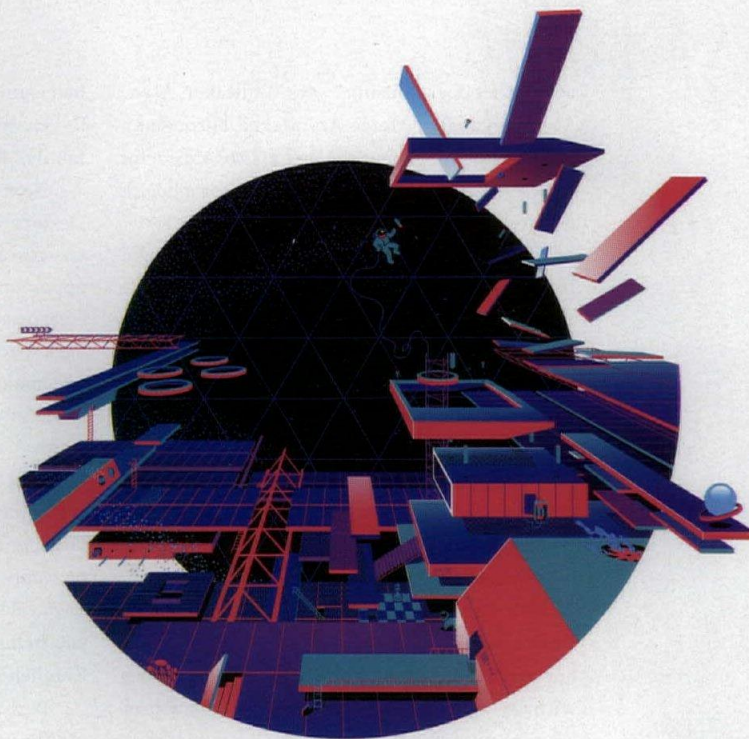
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# PRACTICE



## Beyond the House

How do residential architects break into new building types?

TEXT BY CHERYL WEBER, LEED AP

ILLUSTRATION BY AXEL PFAENDER

**Business planning notwithstanding,** it is often serendipitous events that lead architects into new project sectors. In its early years, the San Francisco-based firm of Zack | de Vito Architecture worked almost exclusively on single-family houses. Then one day, a restaurateur riding his bicycle past the office was impressed by their sign and asked principals Jim Zack, AIA, and Lise de Vito, Assoc. AIA, to make similar signage for a restaurant that he was planning. Did he have an architect for this restaurant project, the married couple asked? He did not, so the firm went on to design the interior and fabricate many of its components.

At the opening party, the architects clinched their second restaurant commission, a warehouse conversion for a chef who owns several local eateries. Since then, Zack | de Vito has designed almost 100 restaurants, which make up half of its portfolio.

Former clients, too, are a go-to source of game-changing connections. In Boston, Elizabeth Whittaker's first foray into designing a ground-up multifamily building came after a house client introduced her to his brother-in-law, a developer. He commissioned the Penn Street Lofts, which won awards and was widely published. "It was a real break and labeled us as



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"WHEN YOU'RE PRESENTED WITH A NEW OPPORTUNITY, IT'S HOW YOU POSITION YOURSELF TO HAVE RELEVANT EXPERIENCE THAT ULTIMATELY ALLOWS YOU TO MOVE OUT OF YOUR BREAD-AND-BUTTER WORK."

—Andrew Kotchen, Workshop/APD

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a firm that does housing," says Whittaker, Assoc. AIA, principal of Merge Architects. Through another residential client she met a YMCA director, which led to an unbuilt commission for a health and wellness center.

The issue of diversifying beyond single-family homes looms conspicuously for firms in this post-crash era. For many, the housing bust was a call to action to expand their repertoire and profit base. "Pre-recession, we were fairly happy doing high-end residential work around the Northeast," says Andrew Kotchen, principal of Workshop/APD, in New York. "Then we realized we needed to broaden our services to avoid being a phone call away from almost being out of business when a few clients stop a job."

#### Position Papers

For architects, one of the vexations that comes with trying to land a commission for a new project type is convincing potential clients that they can handle the job. Overcoming typecasting is a matter of skill and luck—being in the right place at the right time, in Kotchen's experience. For example, Workshop/APD got its first nonresidential project—L'Apicio restaurant and lounge on Manhattan's Lower East Side—through a house client whose son-in-law was a partner in the restaurant. But Kotchen also notes that the firm's residential sensibilities are a natural segue to the restaurant scene. The common thread, he says, is "the materiality, composition, and texture we bring to spaces. Our aesthetic was aligned with what they were trying to achieve, which was a livable, warm, inviting hangout spot."

On the heels of that project came larger-scale multifamily work—a renovation of the Printing House condominiums in the West Village. For their screening interview, the architects put together a presentation based on program and typology—living spaces, baths, and kitchens—rather than individual projects. "We talked them through the sequence of a multifamily project—streetscape, entry, hallway circulation, apartment circulation—showing disparate work that

had a unique aesthetic to it, so it wasn't necessarily relevant whether it was single-family or multifamily," Kotchen says.

Next up for Workshop/APD is a ground-up 13-story apartment building, the firm's tallest structure to date. Kotchen sees the building as an opportunity to distribute its residential knowledge on an even larger scale: pulling daylight into dark spaces, transitioning through tight hallways, and making spaces live larger than their area by defining ceiling planes. But being nimble has meant bulking up the office skill set, too. After winning the commission, the firm hired an architect with experience managing a team and large projects. "When you're presented with a new opportunity, it's how you position yourself to have relevant experience that ultimately allows you to move out of your bread-and-butter work," Kotchen says.

BarlisWedlick Architects, with offices in Manhattan and Hudson, N.Y., has also found that innovations germinated on custom homes open the door to other building types. For example, the architects spent the recent recessionary years honing their interest in energy-efficient homes. More than half of the firm's dozen or so architects have become certified Passive House consultants. "Being seen as experts in high-performance homes, and talking about it as a way of approaching architecture, has given us an amazing entrée to other kinds of projects," says principal Alan Barlis, AIA. Since designing its first speculative Passive House several years ago, the firm has completed 10 projects, one-third of them nonresidential, that perform to Passive House standards.

In Germany, where the Passive House concept originated, the term is not associated with any one building type, Barlis says. "We are working on institutional buildings, offices, a church, a theater. Before, we might have gotten one nonresidential project every couple of years because of a client relationship, but now we're attracting them because of this way of building." In fact, he adds, the standard is easier to achieve with



large buildings because the ratio of air volume to building envelope is high. Getting the training, Barlis says, helped to improve the firm's design skills across the board. "This is what we believe in. When you stay true to the stuff that matters, other things will follow," he says.

In Washington, D.C., Muse Architects also uses nonresidential projects to build on what it believes is one of the underpinning fundamentals of good design: context.

While 80 percent of its work is rooted in single-family houses, it has also established a solid niche designing schools and religious institutions. The firm was introduced to educational work through some of its residential clients, many of whom sit on school boards. Although these projects are more complex in terms of paperwork, shop drawing reviews, and construction administration, they allow the firm to explore their ideas about context in a different realm. "Our sensitivity to context is something that occasionally appeals to institutions, and is what led us in that direction," says principal William Kirwan, AIA. "We began to slowly get recognized for those project types and get on lists; it snowballs that way."

While some firms use houses as a stepping stone to what they think are bigger and better building types, Muse Architects doesn't see it that way. "When we'd go to a project interview, we'd be clear on exactly who we are," Kirwan says. "If an institution is looking for a school or church architect, that's not who we are. We tell clients we can bring a sensibility to scale and context that's heavily influenced by our residential work, and we think that makes us better institutional architects."

#### To Market

When Dallas architect Dan Shipley, FAIA, went searching for new frontiers, he started with a family connection: his daughter's private school. What began as a pro bono job rebuilding a classroom porch grew into paid work, and as Shipley's reputation spread, he was invited to submit RFQs

for other educational facilities. Currently on the boards is a five-story dormitory and dock for Sea Scouts in Galveston, Texas.

The world of private education is less competitive than public schools, he says, and private educators are interested in creating a non-institutional environment and a strong connection between inside and outside, which is very different from what a public school would want. The classrooms tend to look like living rooms and sometimes include kitchens.

Dallas's parks department also has been fertile ground for Shipley. "Architects are selling the ability to make a place, and a lot of the places they make relate to the landscape, such as porches and loggias," Shipley says. "Civil engineers can't do small buildings; they have no touch at all." When he learned that the city was embarking on a program to improve its park pavilions, he applied to get his firm on the list. That was fairly easy, he says, because the parks department is run by a sympathetic audience of architects and landscape architects. "To present our qualifications, we showed them houses with porches and outdoor pavilions we had done," Shipley says. Even though some of these projects are small and have all the overhead of bigger commissions, such as presenting to neighborhood groups, it spread the firm's influence. Larger projects and design fees followed, including a recreation center, golf course clubhouse, and maintenance barn.

For most firms, branching out happens incrementally, the result of doing rigorous design work and relationships with past clients and collaborators. Some seven years in, with 90 percent of its portfolio coming from custom-home clients, San Francisco-based Aidlin Darling Design set to work broadening its range. First came the residential client who commissioned a restaurant design, and then more restaurants, and then wineries. When a custom-home builder the firm had worked with developed his own mixed-use building, it opened another door. Around year 10, the firm hired principal Roslyn Cole, AIA, who had extensive experience with public work. "All of

## The A-List

Principal Roslyn Cole joined Aidlin Darling Design five years ago and has helped the firm perfect its RFPs for public projects.

#### How do you decide which RFPs to pursue?

First I look at how far of a stretch it is from what we've done before. You want to take steps toward the right kinds of projects. Some RFPs are very quantitative, while others are qualitative. If it's a building type our office has not done, a data-specific RFP won't be as good a fit as one that allows us to showcase our approach.

#### How do you prepare for the interview?

We include the founding principals and the director who would manage the project. We find out how many people will be in the interview and whether it will be a big or small room. You don't want to bring too many people to the table, because everyone should be part of the conversation. If it's a complex project, we might bring in an additional person who will focus on a specific part of the project.

#### What presentation materials do you use?

With our focus on designing for all of the senses, we like to bring in materials and design boards and have the lights on for a close-in conversation.

#### What happens after the interview?

We encourage potential clients to go and see our work, because to experience the spaces is far more informative. In presenting ourselves, we encourage the conversation and hope the rest will follow. —C.W.

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## Residential Architect

### PRACTICE

that in combination started to raise our profile in all different sectors, and we started to be invited to competitions," says principal Joshua Aidlin, AIA. One of its latest commissions, a chapel at Stanford University, is currently under construction.

In the competitive RFP world, "often potential clients are just checking the boxes—have you done this and that?" Aidlin says. "It takes open-minded and creative people to see how residential work translates to public work. Sometimes it literally takes a key decision-maker willing to look outside the norm."

Kevin Alter, principal of Alterstudio in Austin, Texas, agrees with that assessment. "I much prefer the more idealistic model that the quality of our work will be transferable to bigger scales," he says. "But that often requires the leadership of a benevolent dictator—someone in

authority willing to push forth their vision to do something special." After designing the Texas Hillel Center, a Jewish student union next to the University of Texas, where Alter is associate dean of the architecture school, the firm was short-listed for several similar-scale commissions. "We didn't get them," he says. "They asked how many we'd done, and the intimation was that we didn't have a long track record, which was disappointing to me."

Sometimes the initial work of getting noticed means sacrificing profits, if a firm can afford it. A year or so ago, Aidlin Darling won the commission for a new 35,000-square-foot charter school in Santa Rosa, Calif., partnering with another small firm specializing in educational facilities. The school is for an underserved population, and it won't be a moneymaker, Aidlin says, partly

because the architects are going to great lengths to innovate construction efficiency. They're also participating in the fundraising.

"Certain public projects are back-breakers because the fees aren't realistic, but the building will be seen by millions of people every year," Aidlin says. "We're making sure no stone is unturned to do a remarkable project. It's how we always work, but most public firms don't venture into that level of craft because they can't survive if all of their work is in that realm."

#### Lost in Translation

While a firm's design DNA certainly carries across project types, transitioning beyond single-family commissions introduces different challenges. That's the appeal for Merge Architects, whose current work-in-progress includes a



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"CERTAIN PUBLIC PROJECTS ARE BACK-BREAKERS BECAUSE THE FEES AREN'T REALISTIC, BUT THE BUILDING WILL BE SEEN BY MILLIONS OF PEOPLE EVERY YEAR."

—Joshua Aidlin,  
Aidlin Darling Design

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lobby and café for Northeastern University and a 5,000-square-foot classroom for Lincoln Laboratory at MIT. The firm's mash-up of building and program types allows it to test ideas in different contexts. "Things change radically if you use a particular detail on residential versus retail," Whittaker says. "It's exciting to see how we can mix and match. And we like multi-family buildings because we get to deal with the streetscape and multiple people living together."

The client relationship is quite different, too, she adds. "Many architects find single-family work profitable; I don't. Residential clients revisit ideas over and over and change things at the last minute, whereas institutional and developer clients are working with a strict budget and timeline. There's a different sense of urgency, and it's less personal to them."

Kansas City, Mo., architect Matthew Hufft, AIA, who is working on a \$60 million multi-family commission, prefers custom-home work for the level of detailing and client relationships. "However, unless it's an elaborate home, we can't staff it efficiently," he says. "While a big multi-family project keeps four to six architects busy for six months, a single-family home ties up one architect for two to four months. You have to keep an eye on the workflow."

It's not always easy integrating projects that run at a different pace than a busy residential practice. Yet "architects are trained to solve problems, not deal with a particular program type," Whittaker says. "And there are so many resources out there. If there's something we don't know, we call a consultant." In the next decade, it's a skill architects likely will need more than ever.

# Residential Architect

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# BIM for Emerging Firms



No matter the greatness of a firm's building designs, if the firm is not profitable, it will not survive. Credit: B9 Architects

By Jared Banks, AIA

Whatever its size, an architecture office is either emerging or it's not.

It is either rising to the challenge of change or ignoring the evolving landscape of the 21st century.

An emerging architecture firm is dedicated to design excellence. It is interested in innovation and in being an author of change for the built environment. Focused on maintaining competitiveness and relevance in the industry, an emerging firm is willing to right-size itself and take risks. These firms can be small, medium, large or extra-large.

What common thread connects a thriving one-person operation, a growing office of 20 and a prosperous mega firm? What allows each of these vastly different operations to pursue the work they want and continue year after year?

The firms that survive understand that profitability is key to a successful business. A firm can make the greatest buildings in the world, but if it is losing money, failure is inevitable.

One answer is building information modeling, also known as BIM. This software can provide streamline design processes while improving coordination and integration with team members. Using BIM can help keep a firm relevant and competitive.

What's more, BIM is quickly becoming a prerequisite. According to *The Business Value of BIM in North America: Multi-Year Trend Analysis and User Ratings* (2007–2012) by McGraw-Hill Construction, 71% of Architecture Engineering & Construction AEC firms were using BIM in 2012. Of those firms, 81% factor BIM expertise into their decision-making process when choosing companies to team with (28%

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## LEARNING OBJECTIVES

By the completion of this educational unit, you should be able to:

- Explain how the efficiencies from building information modeling (BIM) software greatly enhance production
- Describe how the fundamentals of BIM aid in improved coordination
- Define how firms can harness BIM to accelerate design
- Identify how BIM helps emerging firms work within larger teams through smarter integration

## CONTINUING EDUCATION

CREDIT: AIA/CES 1 hr

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require BIM expertise, while the remaining encourage it).<sup>1</sup> The AEC industry has reached a tipping point: Lack of BIM knowledge is now a handicap to securing work.

There is, however, a difference between getting work with BIM and using BIM to make work profitable. If a firm jumps on the BIM bandwagon, but fails to implement correctly, they can find themselves on a path towards bankruptcy.<sup>2</sup> Fortunately, with an understanding of the value BIM provides, and a focus on how best to direct a firm's efforts, BIM can open many paths to profitability and the expansion of services.

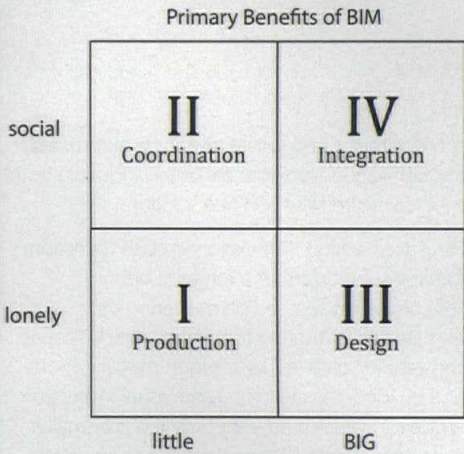
## UNDERSTANDING THE BASICS OF BIM

The successful implementation of Building Information Modeling in an emerging firm requires some basic knowledge about BIM.



For the best results, everyone in the company—from intern to principal—needs to start with the idea that BIM is not a monolithic product or process add-on that can be simply overlaid upon the existing firm. BIM usage is not an all or nothing proposition. Instead, the adoption of BIM should incorporate an understanding of its various aspects, and firms should prioritize those functions that are most beneficial to the health and success of their own evolving business.

BIM is often described by juxtaposing BIG BIM and little bim. This concept was first laid out in Finith Jernigan's book *BIG BIM little bim*. BIG BIM deals with business process changes and data integration that can affect decision making, while little bim is about the replacement of CAD with advanced intelligent modeling software and analysis tools.



BIM can also be viewed by comparing social BIM and lonely BIM, i.e. whether or not you are sharing your data with others outside of your silo. These two conceptions of BIM are critical to understanding how a firm can enhance their core business and profitability. Combining the pairs of BIG/little and social/lonely we get Four Flavors of BIM. Each highlights a primary benefit of Building Information Modeling: **improved production, coordination, design and integration.**<sup>iii</sup>

Many proponents and detractors of BIM would argue that social BIM is the only true BIM. This is a misleading claim and something that emerging firms adopting and expanding their BIM capabilities would be best to question. A firm can gain much by utilizing BIM software and strategies to enhance their internal work, regardless of whether they share that data with a broader team. In fact, an inward focus is a good

way to see early gains from BIM, as these benefits are fully in the control of the firm's employees.

By focusing only on lonely BIM solutions, however, a firm runs the risk of viewing lonely BIM as the only BIM. Instead, lonely BIM solutions should be viewed as part of the larger context of what BIM has to offer.

Again, it's important to remember that firms aren't static entities. A firm's current partners (contractors, owners, product suppliers, etc.) might not have many BIM capabilities, but the data shows that BIM adoption continues to rise across all firm types and sizes.<sup>iv</sup> Future partners will be BIM enabled and current partners will learn—or want to be taught. Internal team members must buy into the bigger paradigm shift that BIM represents; external team members will need to make similar adjustments.

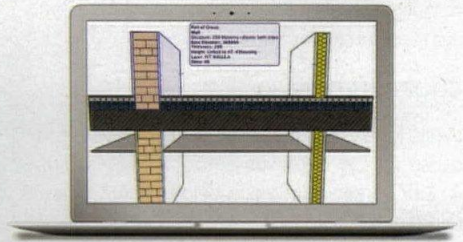
WHAT'S THE COMPETITION DOING?

According to the 2012 AIA Firm Survey Report<sup>v</sup>, BIM software is most commonly used for design visualization (91% of responders), coordinated construction documents (74%) and sharing models with consultants (55%).

PRODUCTION

For the foreseeable future, architects will be required to document their designs via the traditional drawing types of plan, section, elevation, and detail along with notations, schedules and specifications. BIM often creates printed documentation similar to pre-BIM production methods; however, these documents have greater fidelity. When plans, sections, schedules and other representations of the design are generated from the same database—which is essentially what BIM is—inconsistencies are reduced.

Beyond that, each of these drawing and data types can be advanced through BIM. One could do colored plans and axonometric details with ink and velum, but it is now much easier and more



Inconsistencies are reduced when plans, sections, schedules and other representations of a design are generated from the same database.

realistic (and not cost prohibitive) to add these and other variations into a typical construction set.

One of the most common entry points into BIM is using BIM software to improve production. This is not surprising, as the architects surveyed by McGraw-Hill listed three of the five top benefits of BIM as relating to documentation and production. In fact, 57% of those surveyed cited reduced document errors and omissions as a top benefit of BIM, while 45% cited reduced rework and 44% named reduced cycle time of specific workflows.

Lonely little bim allows a firm to do what it used to do, but faster and better.

The object-based nature of BIM means virtual modeling is faster than drawing lines and circles to represent building elements. For instance, instead of drawing marks in empty space and noting it as a door, the designer places a door object that contains all the relevant data (3D massing, 2D projections, scheduling information, etc.). This one object then shows up in every necessary view (view is a BIM term for drawing to be placed on a sheet). Changes made to the object propagate throughout the documents, so there is no need to retype or draw information over and over again.

Automatic generation of views also means a well-built model reduces the time required to finish subsequent views. With each cut section or elevation, tweaks made to the model to fix that view—whether those alterations are for design purposes or drawings aesthetics—propagate throughout the model. As a result, the complexity of the model rather than the number of views required to describe that information on the page becomes the driver for time and fee calculations.

The origin and reusability of objects needed for BIM highlights their function. They might come with the software (either as part of a library or as a tool that creates the elements, such as a wall or slab tool), or be developed by third parties, or be created by the designers. Jon Bueg, AIA, LEED AP, of Wilkus Architects out of Eden Prairie, Minnesota, says:

*Most of the work we do is prototypical in nature so we focus on building and then maintaining robust templates with as much*





The more complex a design, the more opportunity for errors and complications. Rather than keeping all designs simple, the better solution is to employ BIM to streamline the process. Credit: Wilkus Architects

*automation and "smart" components as possible. These templates get refined down to tedious details over time, all in the name of efficiency... BIM creates a lot of "smart" linkages since it is really just a big database.*

Everything in BIM is a manifestation of some extremely complex connections within the software; a lot of computer code lies behind all the 3D models and 2D views. Production benefits when a firm finds where those connections can be exploited and used to make better and more complete drawing sets.

Beyond improving document consistency and speed of creation, BIM also provides the emerging firm with the ability to have multiple people working on the same file at the same time. This aspect of BIM allows firms to share the workload more effectively within the company, and to maximize the value of the production staff.

Today there are BIM applications with work-sharing capabilities that allow a design team to fluctuate in size, work locally or remotely and dynamically own and modify various elements within the BIM. David Jefferis, LEED AP, the owner of Grayform Architecture, a fairly young firm, has found the ability for multiple users to work in the same BIM file to be a boon to his business. Thanks to work-sharing functionality, he is able to easily plug in to another local firm's projects when his own work is slow.

Beyond allowing this architect to easily take on contract work with another firm (essentially adding manpower to the firm's lonely little bim solutions), it has also allowed him to pursue larger projects himself. When the opportunity arose to design a townhouse in Houston with a very constrained timeline, the firm was able to team up with a remotely located partner to provide more production firepower. Team members separated by over 1,000 miles were able to work unimpeded on various parts of the BIM simultaneously.

The work sharing aspect means BIM is more than just models and data. It represents a paradigm shift in the way the AEC industry works. Using BIM, designs being produced are more robust. At the same time, how one engages with the work, and shares it with others, is vastly improved. The same teamwork functionality that improves internal production can also be harnessed to bring in more team members from other disciplines, and to connect the various silos of architect, engineer and contractor.

#### COORDINATION

While lonely little bim makes documents more consistent (an improvement for a single silo of A, E or C), social little bim helps the AEC team coordinate activities.

Clash detection, the process of comparing multiple disciplines' models for conflicts between elements, is the most visible form of social little bim



"Clash detection" to help teams coordinate is one of the most helpful benefits of building information modeling.

coordination. Clash detection can be automated through various software packages, including both expensive enterprise and free solutions.

For the emerging firm exploring clash detection, the free solutions offer a range of options. For companies focused on mastering their primary BIM authoring tool, manual inclusion of consultants' data (either through model imports or rebuilding the elements) and visual inspection is often a viable route, especially if it is a smaller scale project. Not all potential clashes are examined; only possible conflicts involving primary elements (major structure and rigid mechanical ducts for instance) or elements visible to future users of the spaces are inspected. Although this solution is not feasible for large-scale projects, for small commercial work and residential projects it can be tackled, especially if many of the elements will be modeled for other reasons—expression in documentation, context for 3D visualization and walk-throughs, verification of shop drawings.

While clash detection primarily focuses on spatial coordination, it is useful to remember that BIM is about more than just 3D models. Often BIM users talk of 4D, 5D, 6D and nD models. These incorporate other 'dimensions': time, cost, energy usage, water usage, facilities management data, etc.

But the value of BIM is not solely based on adding the biggest number before the letter D.



## ...it is useful to remember that BIM is not just about 3D models.

Incorporating smarter 1D (text), 2D and 3D information into a BIM can provide just as many efficiency and coordination improvements as chasing the larger numbered Ds.

Combining shop drawings into a BIM file is an easy way to enhance coordination. Here, one is not exporting data directly from the BIM to create shop drawings, fabrication drawings and other forms of direct production communication. Instead, one focuses on taking an old method—shop drawings prepared by a fabricator or assembler, sent via PDF to the architect to review and mark-up and then return—and moving it into the BIM paradigm.

Stephanie Millet, AIA, a partner at Natalye Appel + Associates Architects, LLC in Houston describes a method they regularly use:

*By placing PDFs directly into the BIM file, in the same tree structure as our architectural drawings (which are all live views from the model placed on sheets), we can easily keep track of what we have marked up. By doing all our notes digitally there is no worry about messy handwriting or poor copies. All the documentation tools we are accustomed to using (dimensions, text, leaders, cloud bubbles, detail markers...) are available to us. And if we need to reference an existing drawing in a markup, we can create a live link to it. This link works both within our BIM for future reference and if we print sheets as PDFs and send them back to the subs. Before this, marked up shop drawings might get easily missed in a box. Ideally we update the model as well, so as to create an as-built model during construction. But there isn't always time or fees. Keeping the marked up shop drawings in the main model file is a great intermediate solution.*


## QUIZ

- True or False: BIM is only valuable to firms working in multi-disciplinary teams on large budget projects.
- The most common usages for BIM are:
  - Design Visualization, Energy Modeling and Quantity Takeoffs
  - Client Engagement, Estimating and Clash Detection
  - Design Visualization, Construction Documents Model exchange with Consultants
  - Construction Sequencing, Energy Modeling and Estimating
- IFC stands for:
  - Ideal For Collaboration
  - Industry Foundation Classes
  - Integrative Format Category
  - Independent File Channel
- Objects in a BIM are created by:
  - Architects and BIM Consultants
  - Manufacturers
  - Software Developers
  - All of the Above
- True or False: A BIM file or object must contain 3D data.
- With regards to BIM...
  - the more data the better.
  - data should be primarily from manufacture's content.
  - data should not dictate design.
  - all data needs to be shared.
- Emerging firms are architectural practices...
  - with less than ten employees.
  - run by architects under the age of 40.
  - less than five years old.
  - evolving in a variety of ways to stay relevant and competitive.
- True or False: BIG BIM is focused on business process changes while little bim is primarily concerned with advanced software solutions to replace more traditional CAD.
- Of firms with high engagement levels of BIM, only 6% saw a negative or break-even ROI. What percentage saw a very positive ROI?
  - 12%
  - 24%
  - 46%
  - 67%
- The primary difference between social and lonely BIM is:
  - Lonely BIM is inwardly focused; social BIM is externally focused.
  - Lonely BIM is done via email, not social media.
  - Social BIM doesn't increase consistency of documentation.
  - Lonely BIM is only 2D and 3D information. Social BIM includes additional data dimensions: 4D (time), 5D (cost), etc.

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 This article continues at <http://go.hw.net/RA1113Course2>. Go online to read the rest of the article and complete the corresponding quiz for credit.





# WOOD HOUSE

CHICAGO  
BRININSTOOL + LYNCH



TEXT AND INTERVIEW BY LEE BAY  
PHOTOS BY CHRISTOPHER BARRETT

In the client's mind, it all began with a warehouse.

The high-powered businessman wanted to find a warehouse and convert it into a home. He wanted to keep the industrial building's rough-hewn edges and materials—metals, wood, concrete, copper—expressed and exposed, while still making it welcoming. And he hired Brad Lynch of Brininstool + Lynch for the job.

But finding the right warehouse, or former industrial building, proved a tall order in Chicago's Bucktown neighborhood. More than 20 years of gentrification had claimed—by condo or demo—many of the suitable buildings that were once easily found there.

Lynch had a solution: Rather than converting an old building—especially when no one knew if the right one would ever come along—why not design and build an entirely new and contemporary house, using the same mix of materials found in an industrial structure?

During dinner with his client, Lynch turned to the proverbial napkin sketch as a method of persuasion. ("I sketched it out on the back of a placemat covered in tomato sauce" Lynch says. "He says he's still got it somewhere.") And the client was sold.

In the final house, which was completed in August, behind a Cor-Ten steel fence on a Bucktown residential street, it's all there: brick, weathered copper, steel. But the industrial package is bundled in a refined and sophisticated urban architecture where the materials, their texture, and their beauty are simultaneously subdued and boldly let loose. The materials aren't just tacked-on; they help give the building form, character, and function.

The home is also sustainable; it's efficiently heated and cooled with geothermal systems beneath the landscaped courtyard. Mechanical window shades shield and permit sunlight to passively heat and cool the home when needed.

In the following Q&A, Lynch talks about the three-year journey to get the house built.





**Lee Bey:** The owner starts off wanting to live in an actual warehouse. How did you get him to the realization that a house is what he needed?

**Brad Lynch:** Ultimately, the things he was looking for are the materials and a courtyard effect. And both of those can be achieved in a house on available lots that would take up the same room as the type of warehouse he was looking for. In terms of the aesthetic and the spatial quality, we can really achieve more by doing a new house as opposed to trying to work within the configuration of a warehouse. You can configure the house around the courtyard. It is essentially creating privacy from the street, and having a way to get through a fence and a Cor-Ten door and work your way into the courtyard.

**How long did it take to convince him?**

It didn't happen right away. He wasn't really sold on the idea because he wanted his home to be old and have that sense of brick. So I told him, when this is done, whatever he was dreaming about in this warehouse, I promised him he would have the same sense in the house.

I think he would agree—I know that he does—that he got that.

When you come into the living room, what do you see? The brick of the fireplace going out into the courtyard. When you're in the kitchen, what do you see? You see across the courtyard to brick. So everything we talked about in terms of being encapsulated by this façade of beautiful brick is what he ended up getting.

**You were able to bring in all the materials that a warehouse would likely have.**

And those materials also serve a functional purpose, in terms of the way you can organize them—with what works best for the space and the lot—and aesthetically they're more balanced and together as a whole.

**When you couldn't find the desired warehouse in the neighborhood, you had to find a lot that was big enough. Were there houses here?**

There were three very dilapidated structures set back at different depths; some were wood, mixed with brick. And they were all in very bad shape. A developer had bought them at the peak of the last real estate boom, and was selling them at the





beginning of the recession. He had bought at least three lots to put two speculative houses on and obviously couldn't do that because of where the market was. So there was an opportunity.

**Were there any complaints from the neighbors or officials about the building? Because even though it uses the same materials, it looks physically different than what's around it?**

No, if you really examine the neighborhood and the lots and houses that are there, most of them are nonconforming. Some of them are wider than others. Some of them are taller than others. Some are built of different materials.

If you were to have a panoramic view of the block it would be truly disparate in terms of the

time these buildings were built, the materials that were used for them, what the aesthetics were, and the size of the lot. This obviously is a contemporary response, but actually uses traditional materials that are not in conflict with what's in the surrounding area.

**One of the first elements you see is the slatted fence, made out of Cor-Ten, which is a popular material in Chicago. How did you select it?**

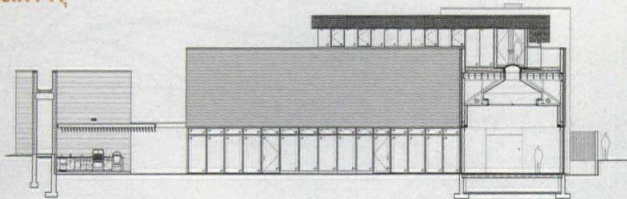
Well, the landscape architect really designed it, and both the owner and I got to give input in terms of where we went with it. And I think we all agreed that the look of Cor-Ten would be really inappropriate for the neighborhood; it seems like it just belongs as an urban-material element.



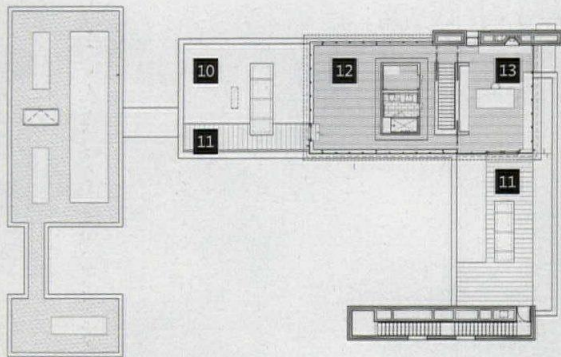
Set back from the property line and behind a slatted Cor-Ten fence, the Wood House offers privacy from the street and embraces the neighborhood's industrial roots. A pre-weathered copper screen, fabricated by Chicago Copper and Iron, offsets the warm tone of the Norman brick exterior walls. Two colors of brick from Illinois Brick Co. were combined to create a tapestry effect.



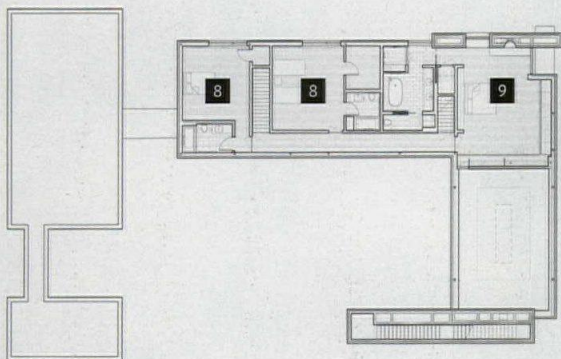
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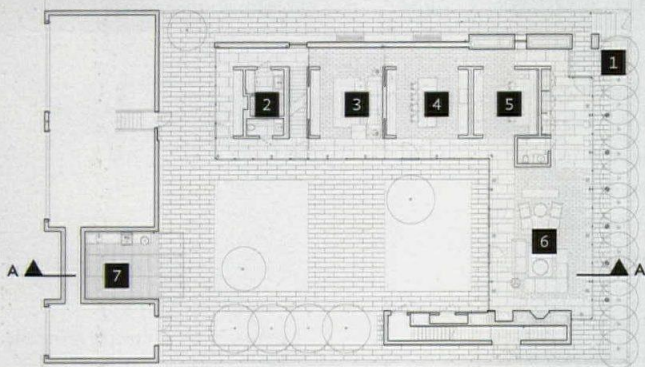
## Third-Floor Plan



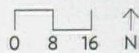
## Second-Floor Plan



## Ground-Floor Plan



- |                   |                 |
|-------------------|-----------------|
| 1. Entrance       | 8. Bedroom      |
| 2. Bath           | 9. Master suite |
| 3. Media room     | 10. Green roof  |
| 4. Kitchen        | 11. Deck        |
| 5. Dining room    | 12. Guest suite |
| 6. Living room    | 13. Studio      |
| 7. Outdoor dining |                 |







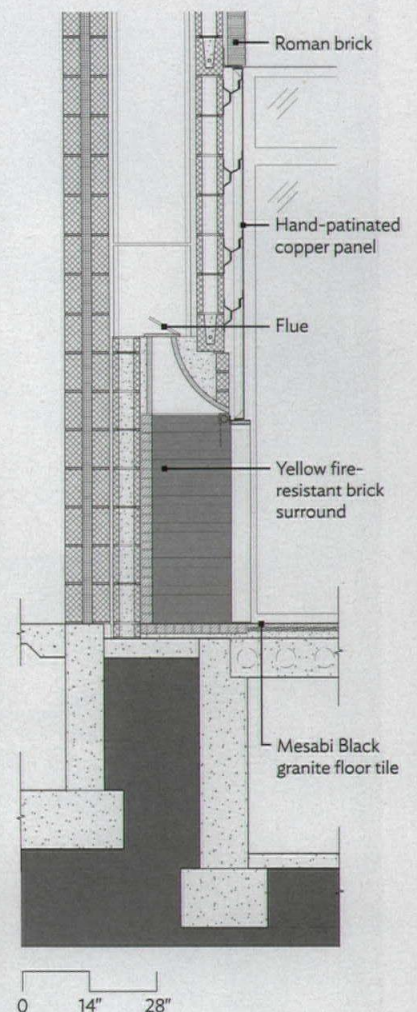








#### Fireplace Detail Section



← **PREVIOUS SPREAD** Behind the slatted Cor-Ten fence is a row of River Birch trees, uplit by fixtures from Bega, that provide additional privacy screening to the glazed first floor of the house.

← Upon entering the house, the first big space one encounters is a large living room with views out through a system of Hope's steel windows. The fireplace surround is made of the same patinaed copper as the exterior screen. Mesabi Black tiles from Cold Springs Granite are used both inside and out. The red Kaare Klint Addition sofa from Rud Rasmussen sits on Kaswell Walnut end-grain block flooring.





← At the rear of the site, a free-standing garage is outfitted with an outdoor dining area, which is shielded by a slatted canopy. Black granite pavers create continuity between the exterior landscape and the interior, where the same material continues in the hallways.

→ **TOP** The landscaped courtyard, with its planted berm and single Japanese Maple, fills the center of the site. The large Roman brick-clad end pier (at right) contains a stair; the wood-lined corridor (at left) connects the kitchen, dining room, and other living areas. **BOTTOM LEFT** In the ground-floor kitchen, appliances from Gaggenau and Sub-Zero are set into custom cabinets fabricated by Stay Straight Manufacturing, the same company that made the perforated wood-veneer acoustical ceiling panels. In the center island, a Mila sink is outfitted with a faucet from KWC. **BOTTOM RIGHT** In the adjacent dining room, Pyrok's Star Silent acoustical plaster ceiling system contrasts with the warm wood veneer wall panels from the Veneer Specialists.

We picked where those slats would be more open and more private based on where the owner wanted to see out. You get a sense of openness, but you can't really see in. There's a sense of anticipation.

#### How did the house's street presence develop?

We really wanted the façade to be a composition, more than an idea of window placement. In the city, everybody has their blinds or drapes drawn. In this house the light goes through, they get the sense of light and sky, but the composition allows it without having to pull the shades.

**There's the great copper element. There are other industrial metals you can use—aluminum, for example.**

**But the copper is what we see. Why?**

The client really wanted copper, and he wanted

it pre-weathered. We didn't want it to look like anything else, so we spent a lot of time studying this pattern, which is not sequential. The closer you get to it, the more interesting it becomes; it's not just the openings, which are larger in certain areas than others, it's the embossing of the material. It has some life to it.

#### What about the courtyard and this relationship between inside and outside?

It really began with these three lots, and then saying, well, I don't need a house that covers the whole property. A lot of the square footage in this house is not about habitable space; it's about how it works with the site.

In a northern climate like this, having the ability to experience the outdoors from your

living space, no matter what time of year it is, is a luxury. It's like having your own park. And so to emphasize that, rather than de-emphasize it, copper panels move in and out of the space, the granite is the floor for both the circulation outside as well as the circulation inside, and there is really no solid between. One works with the other.

#### Now that he's there, is the client convinced?

It's great. This is our fourth project with this client. But even so, it's very difficult to sell something to a client that is not in their reality. If you can't point to it and say this is what it's going to be, this is what it feels like, and this is what it's going to look like, they have a hard time imagining it—no matter how you model it. And so there is a trust factor.













## Project Credits

**Architect** Brininstool + Lynch, Chicago—

Brad Lynch (lead designer); David Brininstool, AIA (managing principal); Dan Martus (project manager); Dena Wangberg (project architect); Joice Krysak, Eirik Agustsson, Hillary Hyson (project team)

**Mechanical Engineer** AA Service Co.

**Structural Engineer** Goodfriend Magruder Structure **Electrical Engineer** Dexter Electric Co. **Civil Engineer** Moshe Calamaro

& Associates **General Contractor** Goldberg General Contracting **Landscape Architect**

Coen + Partners **Size** 7,900 square feet (not including garage) **Cost** Withheld

## Materials and Sources

**Appliances** Gaggenau (kitchen) gaggenau.com; Sub-Zero (refrigerator, freezer)

subzero-wolf.com; Miele (washer, dryer)

mieleusa.com **Cabinets** Stay Straight

Manufacturing (custom) staystraight.com;

Boffi (vanities) boffi.com **Countertops**

Cold Springs Granite (Mesabi Black granite)

coldspringusa.com; Corian (Cameo White)

dupont.com **Flooring** Cold Springs Granite

(Mesabi Black granite) coldspringusa.com;

Kaswell (Walnut end-grain block) kaswell

.com **Lighting Controls** Lutron Electronics

Co. (RadioRA2) lutron.com **Masonry**

Illinois Brick Co. (Norman brick, Yankee Hill

brick) illinoisbrick.com; Green Leaf Brick Co.

(Roman brick) greenleafbrick.com **Windows**

**and Doors** Hope's (steel windows and

doors) hopeswindows.com; Assured Corp

(installation) assuredcorp.com; Oldcastle

BuildingEnvelope (aluminum windows)

oldcastlebe.com; Loewen (aluminum-clad

wood windows) loewen.com; Stay Straight

Manufacturing (custom wood doors)

staystraight.com; FSB fsb.de; Ives

ives.ingersollrand.com, CRL crlaurence.com;

LCN w3.securitytechnologies.com

**RA** For more materials and sources, visit [residentialarchitect.com](http://residentialarchitect.com)

← The glazed front door and Cor-Ten gate are visible through the floating treads of the custom staircase that leads to the second level.

↑ **TOP** In the third-floor studio, Second Shift drapery fabric from Knoll Textiles helps filter daylight. The roof deck beyond is lined with a green roof tray system from LiveRoof. **BOTTOM** Directly below, on the second floor, the master suite needs no curtains, as the perforated copper screen shields the street-facing windows.





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# Residential Architect

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# WORKSPACE



## Overland Partners | Architects

SAN ANTONIO

The ethos at San Antonio-based Overland Partners favors interactive teamwork, and the firm's new headquarters—in a 1918 plumbing warehouse—presented an opportunity to test its design process. “We’re very collaborative in nature,” says partner James Shelton, AIA, who sought design input, in the form of a written essay, from every member of the 60-person firm.

The building is located in the city's River North arts district and reflects the area's industrial history. Shelton and project manager Patrick Winn filled the three loading-dock openings on the street façade with steel gates that are perforated in patterns that recall the warehouse's old graffiti-covered doors. Behind the façade, they removed 1,800 square feet of roof to create a curtainwall-lined entry courtyard. “Wherever we made an addition to the building, we used steel and glass,” Shelton says.

Inside, a steel stair, mezzanine, and “conference pods” contrast with the brick and wood of the existing shell. “The most critical thing was to get into one big room,” Shelton says. Thus, workstations were contracted and common spaces, which were placed under glazed rooftop monitors, were expanded. “The whole layout is areas where we can have collaborative meetings,” Shelton says, noting that the level of interaction has “exploded” since they moved in. —BRUCE D. SNIDER

RA More project photos at [residentialarchitect.com](http://residentialarchitect.com)





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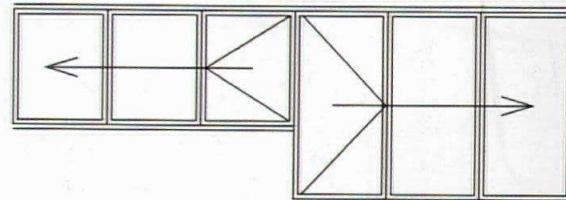
NanaWall Wood Framed Folding Glass Wall WD66 Window / Door Combination (Kitchen Transition)

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